V-SERIES PANELS

User Guide

V-Series Panels Instruction Manual
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Part Number 810365Z Rev. 7

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IMPORTANT SAFETY INSTRUCTIONS

Please read and follow these instructions before operating an Eclipse V-Series Panel. Keep these instructions for future reference.

Please read and follow these instructions before operating a V-Series Panel

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades, with one blade wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. **WARNING:** To reduce the risk of fire or electric shock, do not expose this product to rain or moisture.

Please familiarize yourself with the safety symbols in Figure 1. When you see these symbols on this product, they warn you of the potential danger of electric shock if the main station is used improperly. They also refer you to important operating and maintenance instructions in the manual.

This symbol alerts you to the presence of uninsulated dangerous voltage within the product's enclosure that might be of sufficient magnitude to constitute a risk of electric shock. Do not open the product's case.

This symbol informs you that important operating and maintenance instructions are included in the literature accompanying this product.

Figure 1: Safety Symbols

EMC AND SAFETY

The V-Series Panels meet all relevant CE, FCC, UL, and CSA specifications set out below:

EN55103-1 Electromagnetic compatibility. Product family standard for audio, video, audio-visual, and entertainment lighting control apparatus for professional use. Part 1: Emissions.

EN55103-2 Electromagnetic compatibility. Product family standard for audio, video, audio-visual, and entertainment lighting control apparatus for professional use. Part 2: Immunity.

UL 60065-7, CAN/CSA-C22.2 No.60065-3, IEC 60065-7 Safety requirements.

And thereby compliance with the requirement of Electromagnetic Compatibility Directive 2004/108/EC and Low Voltage Directive 2006/95/EC

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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1 INTRODUCTION

This chapter describes how to operate the V-Series panels. Panel operators can use this manual after the Eclipse System has been correctly installed and configured.

DESCRIPTION

V-SERIES PANELS

The V series family of panels consists of twelve lever key, push-button and rotary control panels as described below.

Lever Key Panels

- V12LD - 19” rack mount 1RU 12 lever key display panel.
- V24LD - 19” rack mount 2RU 24 lever key display panel with dial pad.
- V12LDE - 19” rack mount 1RU 12 lever key display expansion panel.
- V12LDD - desktop 12 lever key display panel.

Pushbutton Panels

- V12PD - 19” rack mount 1RU 12 pushbutton display panel.
- V24PD - 19” rack mount 2RU 24 pushbutton display panel with dial pad.
- V12PDE - 19” rack mount 1RU 12 pushbutton display expansion panel.
- V12PDD - desktop 12 pushbutton display panel.

Rotary Control Panels

- V12RD - 19” rack mount 1RU 12 rotary control display panel.
- V24RD - 19” rack mount 2RU 24 rotary control display panel with dial pad.
- V12RDE - 19” rack mount 1RU 12 rotary control display expansion panel.
- V12RDD - desktop 12 rotary control display panel

V-SERIES PANEL OPTIONS

The V series panels can be equipped with the following headset connector options (one connector only):

- XLR-4M locking headset connection.
- XLR-5F headset connection.
- XLR-7M headset connection.

The V12LD and V24LD panels can support the following expansion panels:

- Up to eight V12LDE expansion panels in a daisy chain.

The V12PD and V24PD panels can support the following expansion panels:

- Up to eight V12PDE expansion panels in a daisy chain.

The V12RD and V24RD panels can support the following expansion panels:

- Up to eight V12RDE expansion panels in a daisy chain.

The V12LDD, V12PDD and V12RDD desktop panels do not support expansion panels.

Expansion panel types (lever key, pushbutton or rotary control) may not be mixed in a daisy chain of such panels and must be connected to a main panel of the same type.

FRONT-PANEL CONTROLS AND INDICATORS

This section describes the front-panel controls and indicators. These include:

- The displays for each key
- Intercom and program controls
- Talk/listen selectors and indicators
- “Answer Back” facility
- Keypad buttons (V24LD, V24PD, V24RD, V12LDD, V12PDD and V12RDD panels only)
- Microphone and headset connectors

Figure 1-1 illustrates the V12LD front panel controls and indicators

.

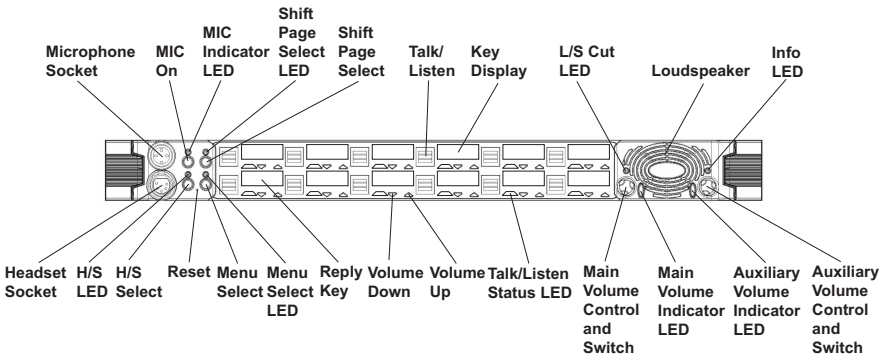

Figure 1-1: V12LD Front Panel Controls and Indicators

Figure 1-2 illustrates the V12PD front panel controls and indicators.

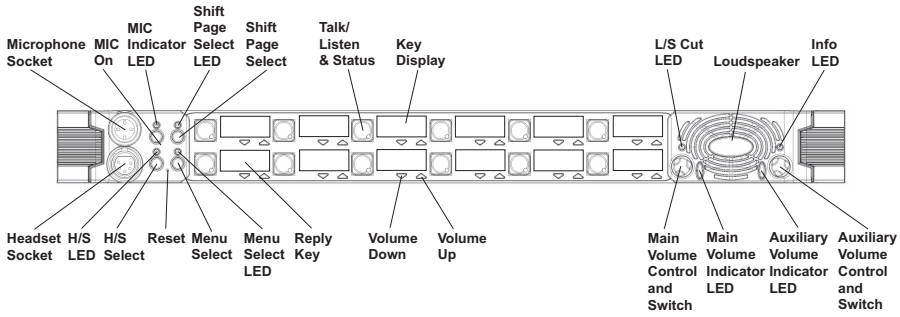

Figure 1-2: V12PD Front Panel Controls and Indicators

Figure 1-3 illustrates the V12RD front panel controls and indicators.

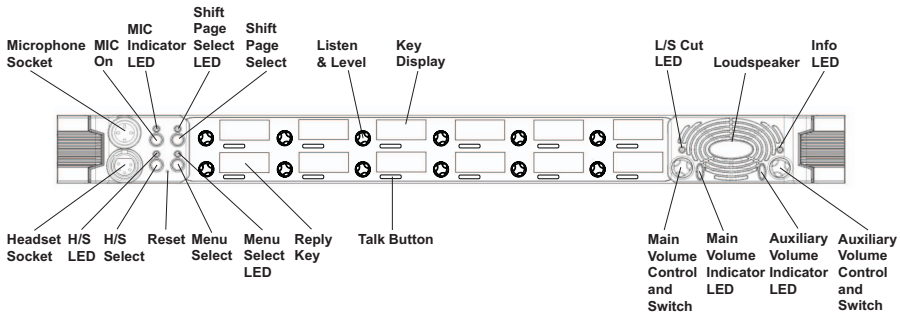

Figure 1-3: V12RD Front Panel Controls and Indicators

Figure 1-4 illustrates the V24LD front panel controls and indicators.

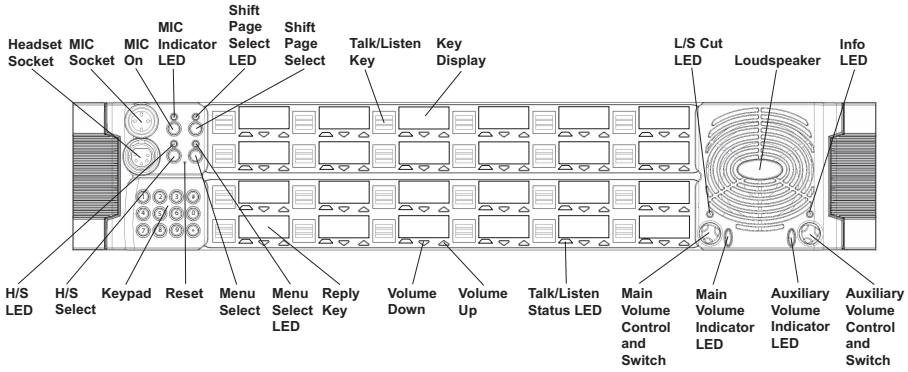

Figure 1-4: V24LD Front Panel Controls and Indicators

Figure 1-5 illustrates the V24PD front panel controls and indicators

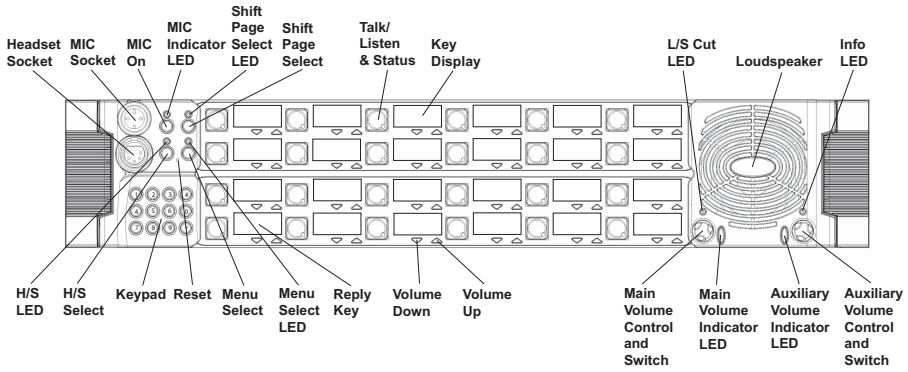

Figure 1-5: V24PD Front Panel Controls and Indicators

Figure 1-6 illustrates the V24RD front panel controls and indicators

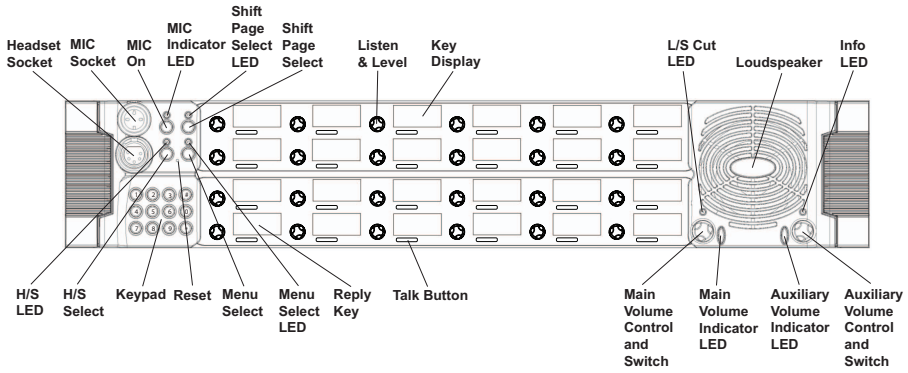

Figure 1-6: V24RD Front Panel Controls and Indicators

Figure 1-7 illustrates the V12LDE expansion front panel controls and indicators.

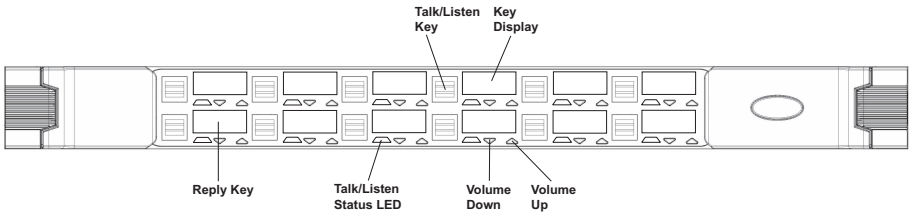

Figure 1-7: V12LDE Expansion Front Panel Controls and Indicators

Figure 1-8 illustrates the V12PDE expansion front panel controls and indicators.

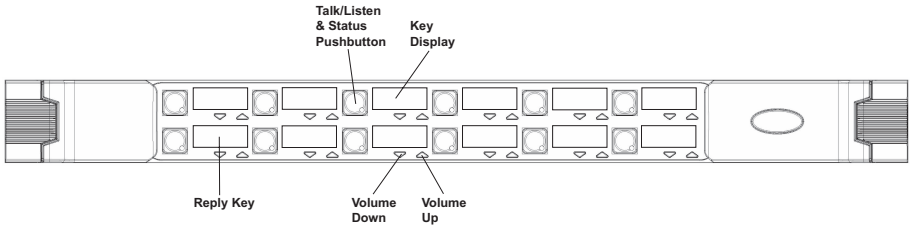

Figure 1-8: V12PDE Expansion Front Panel Controls and Indicators

Figure 1-9 illustrates the V12RDE expansion front panel controls and indicators.

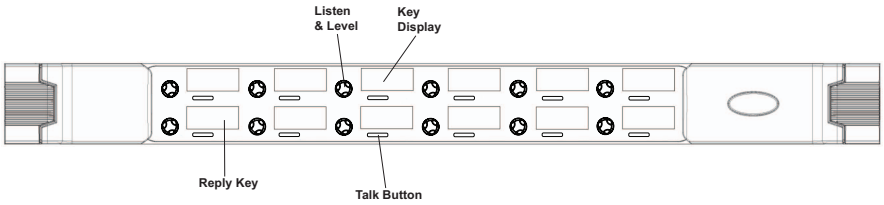

Figure 1-9: V12RDE Expansion Front Panel Controls and Indicators

Figure 1-10 illustrates the V12LDD front panel controls and indicators.

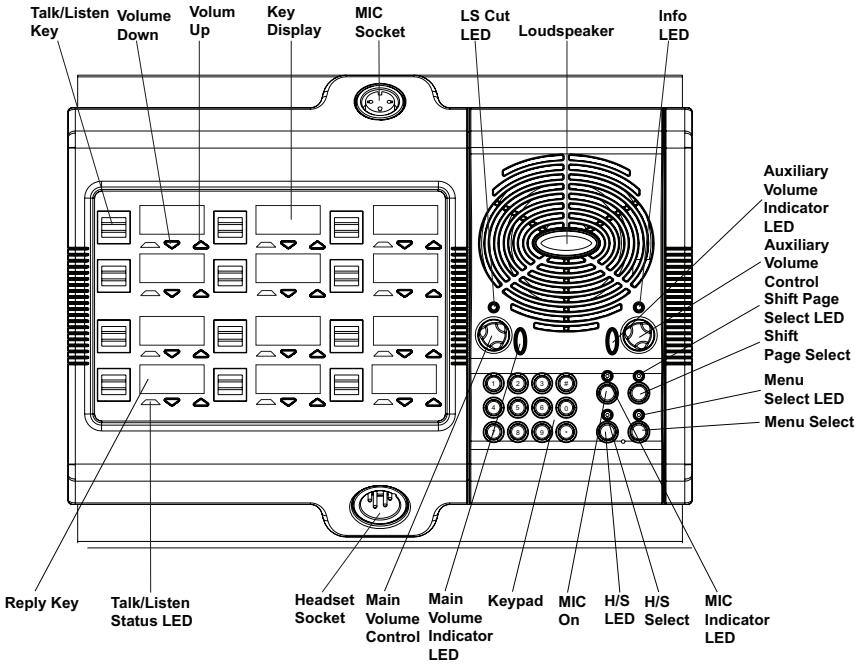

Figure 1-10: V12LDD Front Panel Controls and Indicators

Figure 1-11 illustrates the V12PDD front panel controls and indicators.

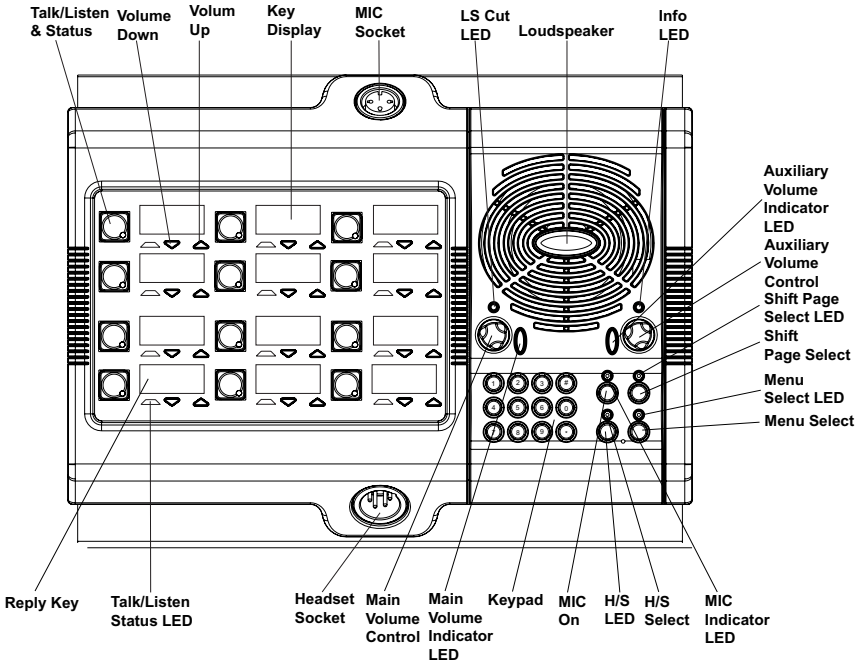

Figure 1-11: V12PDD Front Panel Controls and Indicators

Figure 1-12 illustrates the V12RDD front panel controls and indicators.

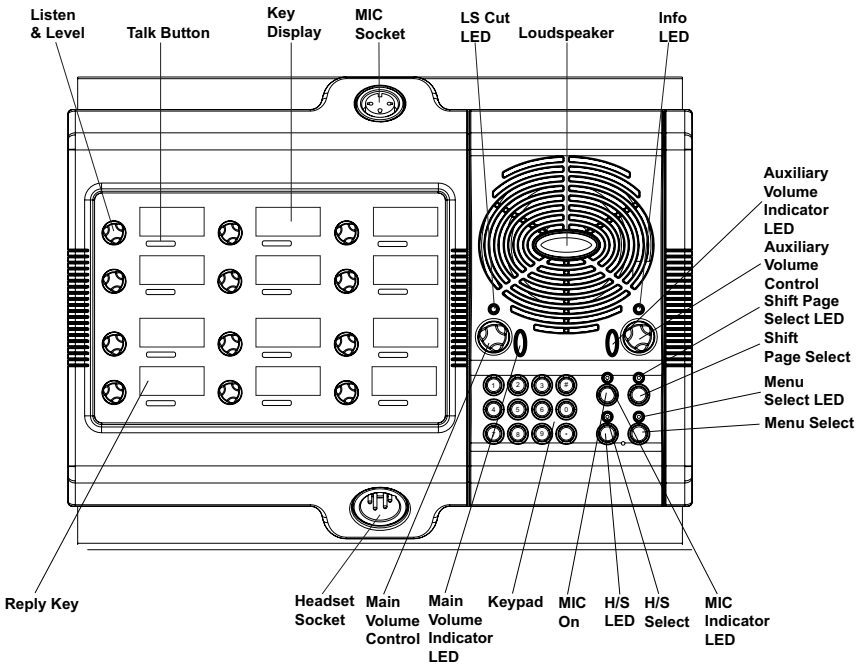

Figure 1-12: V12RDD Front Panel Controls and Indicators

DISPLAY WINDOW

A display window is located next to each selector and shows the currently assigned label for that selector. Assigned labels are accessed when the selector is pushed (pushbutton and rotary panels) or toggled (lever key panel). Each selector can be assigned as many as nine labels via the main page and eight shift pages. Each label can represent a talk or listen path to a panel, interface, fixed group, or party line, or can activate a programmable control function.

The display window for each key can display up to ten Latin or Katakana characters or five Kanji characters together with status indicators for the key. These indicators are:

- Currently selected page
- Latched talk indicator
- Latched listen indicator
- Panel monitoring indicator
- Microphone indicator
- Incoming Vox indicator
- Antenna active indicator
- Destination type indicator e.g. Party Line, IFB, Fixed Group
- Remote panel connection

KEY DISPLAY

The display associated with each line key provides a text area for up to ten characters to be used to display audio route labels or menu options, selection arrows, audio level indicator, scroll arrows and function/audio source indication.

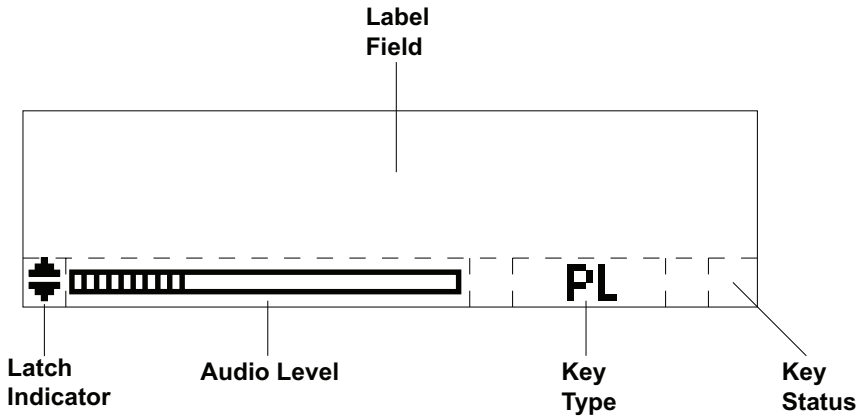

Figure 1-13: Line Key Display Window Areas

- Label Field - 10 character field for the key label.
- Latch Indicator - indicates the talk/listen status of the key. A down arrow indicates that the key is a latched talk key, an up arrow indicates a latched listen key and both arrows together indicate an latched talk and listen key. If no arrows are displayed the key is not latched.
- Audio Level - a bar graph indicating the audio level set on that route. The audio level is controlled using the volume control buttons below the display (lever key and pushbutton panels) or the rotary control on rotary panels.

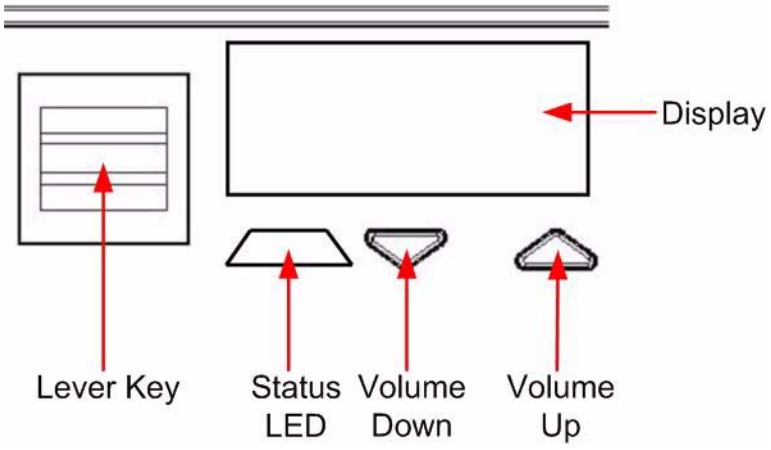

Figure 1-14: Lever Key Panel Volume Buttons

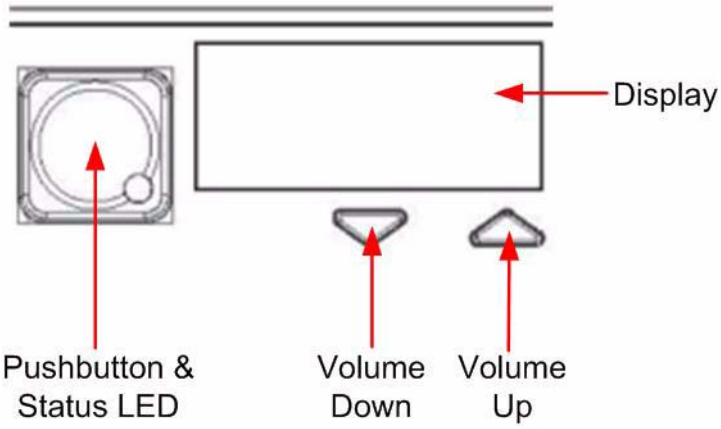

Figure 1-15: Pushbutton Panel Volume Buttons

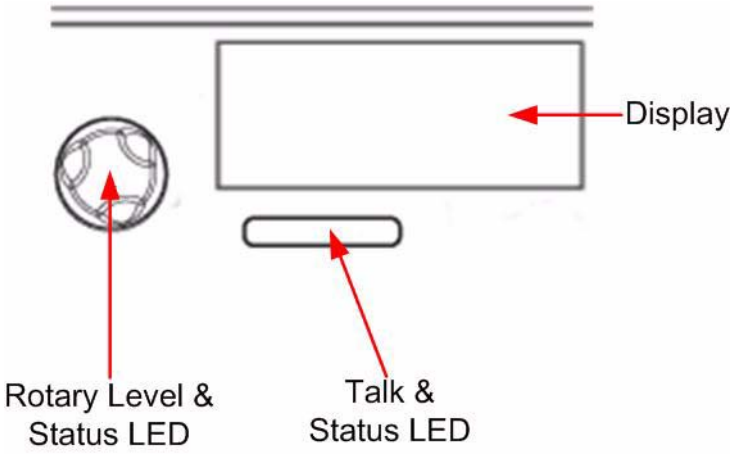

Figure 1-16: Rotary Panel Volume Buttons

- Key Type - indicates the type of route or action the panel key is connected to. These are:
    - PL - Party Line
    - IFB - Interruptible Foldback
    - FG - Fixed Group (includes stacked keys)
- Key Status - displays an icon indicating the status of this key. The icons are shown in the figure below.

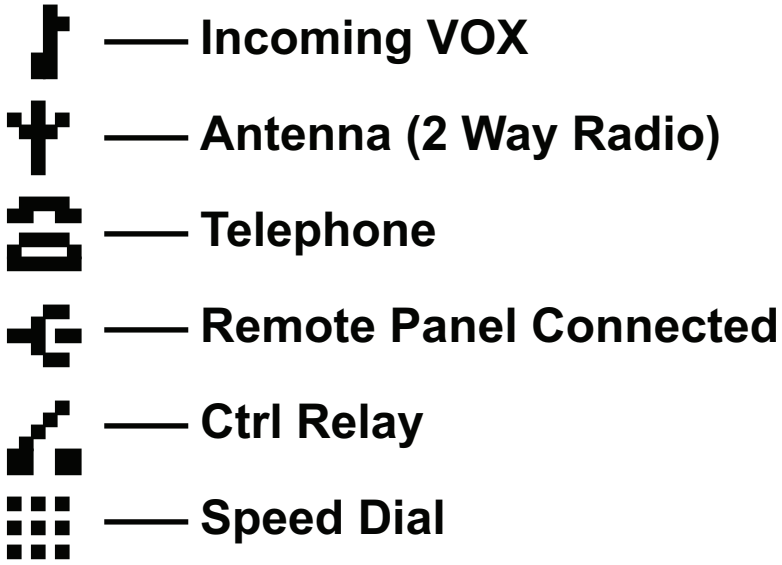

Figure 1-17: Key Status Icons

REPLY KEY DISPLAY

The display associated with the Reply key provides a text area for up to ten characters to be used to display labels or menu options, selection arrows, audio level indicator, scroll arrows and function/audio source indication.

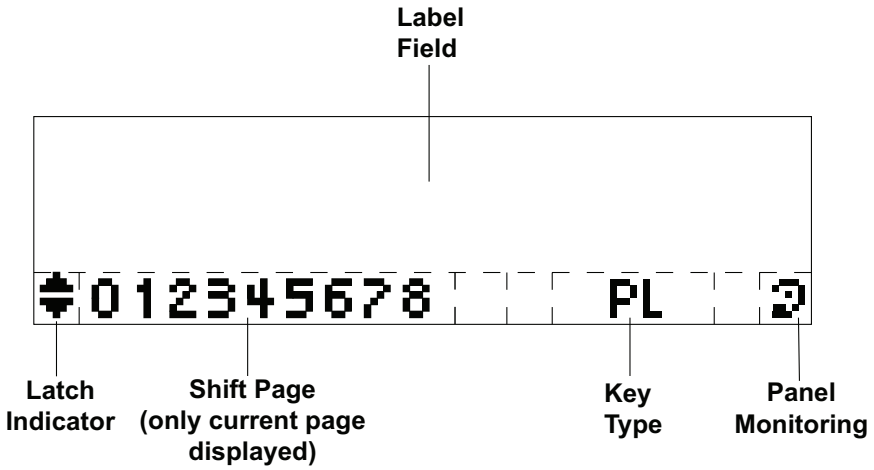

Figure 1-18: Reply Key Display Window Areas

- Label Field - 10 character field for the “Reply” label or the caller label.
- Latch Indicator - indicates the latch status of the key. As the Reply key is non-latching these indicators will not be displayed.
- Shift Page - The number of the current shift page. Only the current page number is displayed with the digit in the position shown in the illustration.

- Key Type - indicates the type of route or action the Reply key is connected to. When replying to an incoming call from a Party Line, Fixed Group or IFB the caller port is displayed rather than the Party Line, Fixed Group or IFB, and the reply key only connects to the caller.
- Panel Monitoring - displays an ear icon if the panel is being monitored.

FONTS

The Eclipse V5 release has additional font support for the V-Series panels. The details of the fonts supported and any limitations are described below.

1. Basic Latin. The backslash is a Yen character. This is a size-maximized font (no descenders, lower-case characters are not relative in size to upper-case characters). This covers Unicode 32 to 127 (decimal), 0x20 to 0x7F (hex). The V-Series panel display will support ten characters.
2. Cyrillic. This is a normal, relatively-sized font. The V-Series panel display will support ten characters. Covers Unicode 1024 to 1279 (decimal), 0x400 to 0x4FF (hex) with some missing characters.
3. Hiragana. The V-Series panel display will support five characters. This covers the codepoint range 12352 to 12447 (decimal), 0x3040 to 0x309F (hex).
4. Full-width Katakana. The V-Series panel display will support five characters as this is a normal width font. This covers the codepoint range 12448 to 12543 (decimal), 0x30A0 to 0x30FF (hex) with some missing characters.
5. Kanji. There are about 17,000 out of the 21,000 characters. The V-Series panel display will support five characters. This covers the codepoint range 19968 to 40895 (decimal), 0x4E00 to 0x9FBF (hex).
6. Hangul. The V-Series panel display will support five characters, range is 44032 to 55215 (decimal), 0xAC00 to 0xD7AF (hex).
7. Half-width katakana. The V-Series panel will support ten characters. The codepoint range is 65376 to 65440 (decimal), 0xFF60 to 0xFFA0 (hex).

PANEL OPERATION

The operation of V-Series panels is described in this section. Lever key panels, pushbutton panels and rotary control panels have some operational differences which will be described in this section.

MIC ON BUTTON

The Mic On/Off button turns the currently selected microphone (gooseneck microphone or headset microphone) on or off. When the microphone is on the red LED will come on to indicate that the

microphone is active. If a panel key is used to establish a talk connection the panel microphone will automatically be enabled and the indicator will light. When the connection is terminated the microphone will automatically be disabled.

SHIFT PAGE BUTTON

Momentarily pressing and releasing the shift page button toggles between the main page and the currently selected shift page. Pressing and holding the shift page button for more than 500ms changes the panel into shift page mode and displays the shift page menu on the display (see “Shift Menu” in chapter 2). The red indicator LED will light to show that shift page mode is on. Shift pages can then be selected and displayed on the main panel.

HEADSET SELECT BUTTON

The headset select button allows the operator to select the panel headset for audio output. When the headset is selected the red LED indicator will light and the panel microphone will be deselected if it is active.

MENU BUTTON

Pressing and releasing the menu button causes the panel to enter menu mode where the displays are cleared of labels and the panel menus are displayed allowing panel functions to be configured. The menu indicator blue LED will light to show that the panel is in menu mode. The menu button can also be pressed to quickly exit any user menus active at the time.

Access to some panel menus can be disabled in ECS via the Advanced Settings > Soft Mode Options in Matrix Hardware. Access to these menus can be restricted by requiring the operator to enter the PIN code set in ECS.

MAIN VOLUME CONTROL

The main panel volume control comprises a rotary encoder with push-switch action and a tri-color loudspeaker volume indicator LED. The LED volume indications are:

- Red - high volume
- Amber - intermediate volume
- Green - low volume

Turning the volume control clockwise increases the loudspeaker volume and turning it anticlockwise decreases loudspeaker volume; the indicator LED will indicate the loudspeaker level. Above the main volume control is a loudspeaker cut indicator LED which will show red

when the loudspeaker output has been muted. Pressing the volume control toggles the loudspeak cut.

AUXILIARY VOLUME CONTROL

The auxiliary panel volume control comprises a rotary encoder with push-switch action and a tri-color loudspeaker volume indicator LED. The LED volume indications are:

- Red - high volume
- Amber - intermediate volume
- Green - low volume

The auxiliary volume control sets the volume on the optional external loudspeaker that can be connected to the auxiliary audio port on the rear of the panel.

Turning the volume control clockwise increases the loudspeaker volume and turning it anticlockwise decreases loudspeaker volume; the indicator LED will indicate the loudspeaker level.

Pressing and releasing the auxiliary volume control will play back messages stored on the “Listen Again” system.

LISTEN AGAIN REPLAY

Pressing the auxiliary volume control switch momentarily activates the “Listen Again” feature that will replay the last stored audio (this feature is configured in ECS under Panel Options). Repeatedly pressing the auxiliary volume control will step back through the stored messages.

UP/DOWN VOLUME BUTTONS

Below each key display on lever key and pushbutton panels is a pair of buttons to adjust the volume on that connection. The left button reduces the volume and the right button increases the volume.

The volume buttons can also be used to release a telephone line in the same way as the ‘TEL RELEASE’ function in the diagnostic menu (see “Diagnostic Menu” on page 2-48). This function will only operate if the label on the key is to a Tel-14 and remote telephone line release has been enabled on the panel from ECS.

To release the telephone line both the up and down arrows are held down by the user. The label display will change to say "TEL RELEAS" and the telephone will be put back on hook and all latched keys to it on the local system will be unlatched and so kill the routes to it. After approximately 5 seconds the display will return to showing the configured label.

If the panel does not have "Remote Line Release" configured then it will send the call signal to the label.

The volume buttons are also used to adjust some settings that are accessed through the panel menu such as side tone gain (see “Level Adjust Menu” in chapter 2).

ROTARY ENCODER

Beside each key display on rotary panels is a rotary encoder to adjust the volume on that connection. Turning the rotary encoder clockwise increases the volume and turning it anti-clockwise reduces the volume.

The rotary encoder can also be used to release a telephone line in the same way as the ‘TEL RELEASE’ function in the diagnostic menu (see “Diagnostic Menu” on page 2-48). This function will only operate if the label on the key is to a Tel-14 and remote telephone line release has been enabled on the panel from ECS.

To release the telephone line press and hold the rotary encoder switch. The label display will change to say "TEL RELEAS" and the telephone will be put back on hook and all latched keys to it on the local system will be unlatched and so kill the routes to it. After approximately 5 seconds the display will return to showing the configured label.

If the panel does not have "Remote Line Release" configured then it will send the call signal to the label.

The rotary encoder is also used to adjust some settings that are accessed through the panel menu such as side tone gain (see “Level Adjust Menu” in chapter 2) and scroll through lists.

KEYPAD (2RU & DESKTOP PANELS)

The keypad on the 2RU lever key, pushbutton and rotary panels and desktop panels may be used to access certain menu pages directly (as a shortcut) and to enter dialcodes to dial out via a telephone interface such as a TEL-14 interface unit.

The menu shortcuts available from the keypad are:

- 1 - Dial Menu
- 2 - Local Exclusive
- 3 - Local page override
- 4 - Assignment Panel menu
- 5 - Local Key Assign menu
- 7 - Local Preferences menu
- # - Fast Key Assign menu

When the dialpad keys are used to access a menu function the menu indicator lights.

PTT OPERATION

PTT operation on V-Series panels may use either a PTT switch on the panel headset or the auxiliary audio connector on the rear of the panel. The operation of PTT on the V-series panels is determined by the Headset PTT Function set in ECS. The Headset PTT Function may be set to one of three options.

- No Function - headset PTT does not cause any talk or listen routes to become active.
- Activate All Talk Keys - headset PTT will cause the audio routes on all latched talk keys to become active. Unlatched talk keys and listen keys will not become active. See sections below for details of latched keys or pushbuttons.
- Activate Two-Way Radio Talk Keys - headset PTT will cause the audio routes on all latched talk keys attached to two-way radios to become active. Unlatched talk keys and listen keys will not become active. See sections below for details of latched keys or pushbuttons.

LEVER KEY PANEL OPERATION

Lever keys can have both Talk and Listen labels assigned to the same key in ECS and can be used as Talk or Listen keys depending on whether the key is moved up or down. If the key is moved upwards then the listen function is selected while if the key is moved down then the talk function is selected.

The lever keys normally default to latching unless the non-latching option is configured in ECS under Global Settings (Latch Disable set to True) for the destination port. In the default state (latching) if the lever key is momentarily pressed up or down it will latch whereas if it is held in the talk or listen position for more than 200 ms it will not latch and the connection will terminate as soon as the key is released.

When the key is inactive the talk/listen status indicator below the key will display amber; when a talk path is active (key pressed down) the status will indicate red and when a listen path is active (key pressed up) the status will indicate green.

An incoming call to the panel will cause the reply key indicator to flash red; to take the call press the reply key down or to clear the call press the reply key up.

Lever Key Reply Key GPI Operation

If a footswitch (or other type of switch) is connected to GPI 3 which is preassigned to the reply key the panel will clear the currently viewed item on the reply stack on release of the switch. Please refer to the section on “Opto-Isolated Inputs” on page 4-9 in this manual and the ECS manual (part 810299Z) for details of the preassigned GPIs.

PUSHBUTTON PANEL OPERATIONS

Pushbuttons can only act as talk or listen keys depending on the function assigned to them in ECS. The pushbuttons normally default to latching unless the non-latching option is selected in ECS under Global Settings (Latch Disable set to True) for the destination port. In this case if the pushbutton is momentarily pressed it will latch whereas if it is held for more than 200 ms it will not latch and the connection will terminate as soon as the key is released.

When a pushbutton key is inactive (no talk or listen connection established) the pushbutton will illuminate dim red or green depending on whether it has been configured in ECS as a talk (red) or listen (green) route or a talk and listen (amber) route.

When a pushbutton is pressed to establish a route the illumination will change to bright red or green to indicate that a connection is established. To cancel the connection press the button and it will return to dim illumination.

An incoming call will be signalled by a flashing red reply pushbutton; to pick up the call press the reply pushbutton.

Pushbutton Reply Key GPI Operation

If a footswitch (or other type of switch) is connected to GPI 3 which is preassigned to the reply key the panel will not clear the currently viewed item on the reply stack on release of the switch. Please refer to the section on “Opto-Isolated Inputs” on page 4-9 in this manual and the ECS manual (part 810299Z) for details of the preassigned GPIs.

The audio block diagram for the V-Series panel is shown in Figure 1-20 below. This diagram shows all the allowed audio routes and valid crosspoints allowed by the V-Series panel.

Note: Some of the audio paths shown on the block diagram are only available via the audio mixer function in ECS.

ROTARY PANEL OPERATIONS

Rotary panel keys can have both Talk and Listen labels assigned to the same key in ECS. The Talk and Listen functions are split between the rotary encoder and the button under the display (talk button). If the rotary encoder is pressed then the listen function is selected and the encoder illuminates green. If the button under the display is pressed then the talk function is selected and the talk button illuminates red.

Key Operation

By default the talk label will be displayed on a key unless only a listen label has been configured in which case the listen label will be displayed. In assignment panel mode the talk labels are shown on possible IFB destinations and the listen labels are shown when the user is selecting an IFB source.

The rotary encoder and talk button normally default to latching unless the non-latching option is selected in ECS under Global Settings (Latch Disable set to True) for the destination port. In this case if the rotary encoder or talk button is momentarily pressed it will latch whereas if it is held for more than 200 ms it will not latch and the connection will terminate as soon as the key is released.

When a rotary encoder is inactive (no listen connection established) the centre of the rotary encoder will illuminate dim green. When a talk button is inactive (no talk connection established) the talk button will illuminate dim red. If the brightness control is turned down the dimmed illumination of the rotary encoder and talk button will be extinguished.

When a rotary encoder is pressed to establish a listen route the illumination will change to bright green. If a talk button is pressed to establish a talk route the illumination will change to bright red to indicate that a connection is established. To cancel the connection

press the rotary encoder or talk button and it will return to dim illumination.

An incoming call will be signalled by a flashing red reply key talk button; to pick up the call press the reply key talk button.

Reply Key

Unlike lever key and pushbutton panels the Reply key on a rotary panel can be overwritten with other talk and listen labels in ECS but is not deleted. If the Reply key is overwritten the panel no longer has a Reply key. If menu mode is entered and the reply key has been overwritten Assignment Panel (AP) functions are disabled as the Reply key is no longer available. If the labels placed on the Reply key are removed in ECS the Reply key becomes available again and Assignment Panel functions will be available.

The Reply key rotary encoder can be used to scroll through the Reply key stack if more than one call is present on the answerback stack. To move to the next call rotate the encoder clockwise; the move back to the previous call rotate the encoder anticlockwise.

COM Keys

Rotary panels can have a special ‘COM’ key assigned to any key on the panel including the Reply key in ECS. When the COM key is selected the panel will enter Assignment Panel (AP) mode without going into menu mode. If the COM key is placed on an expansion panel selecting it will place the expansion panel and all other expansion panels after it in the chain into AP mode. Panels that precede it in the chain will not be placed in AP mode and can be used normally.

Once in AP mode the COM key will behave in the same way as the Reply key in AP mode allowing the user to configure IFBs, Conferences and Fixed Groups as normal in AP mode.

If the Reply key has not been reassigned in ECS the talk button on the reply key will also flash when in AP mode to mimic the COM key status.

Rotary Panel IFB Operation

When a rotary panel key is assigned as an IFB source the rotary encoder may be used to adjust the audio level sent from the panel to the destination or the listen level at the panel.

If the call to the IFB destination is latched by momentarily pressing the talk button the level of the audio sent to the IFB destination can be adjusted by turning the rotary encoder.

If the call to the IFB destination is not latched (the talk button is held down) the audio level is adjusted by pressing and turning the rotary encoder.

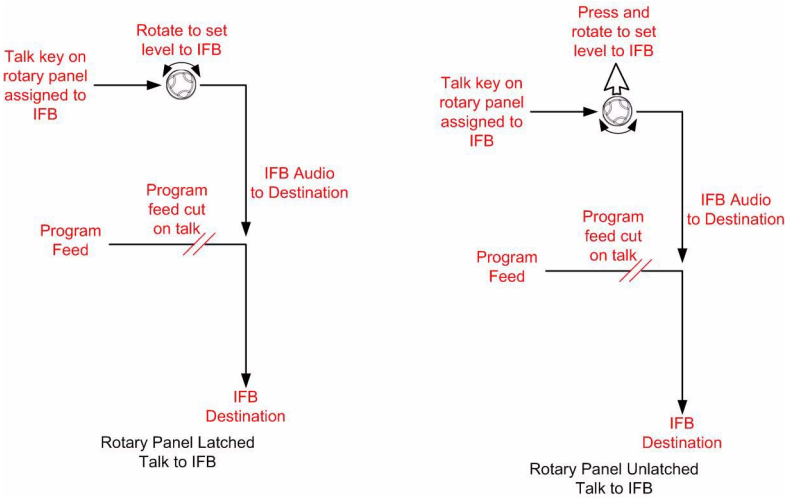
Rotate to set level to IFB
Talk key on rotary panel assigned to IFB
IFB Audio to Destination
Program feed cut on talk
Program Feed
IFB Destination
Rotary Panel Latched Talk to IFB
Press and rotate to set level to IFB
Talk key on rotary panel assigned to IFB
IFB Audio to Destination
Program feed cut on talk
Program Feed
IFB Destination
Rotary Panel Unlatched Talk to IFB

Figure 1-19: IFB Talk Level Adjust

Rotary Forced Listen Operation

Forced listen key operation on rotary panels differs from lever key and pushbutton panels. A forced listen key on a rotary panel will show the rotary encoder illuminated bright green to indicate active listen. Pressing the rotary encoder configured as a forced listen will mute the audio from the forced listen and the listen indicator will be extinguished. Pressing the rotary encoder again will restore the forced listen audio and the encoder will be illuminated green again.

Rotary Panel Reply Key GPI Operation

If a footswitch (or other type of switch) is connected to GPI 3 which is preassigned to the reply key the panel will not clear the currently viewed item on the reply stack on release of the switch. Please refer to the section on “Opto-Isolated Inputs” on page 4-9 in this manual and the ECS manual (part 810299Z) for details of the preassigned GPIs.

The audio block diagram for the V-Series panel is shown in Figure 1-20 below. This diagram shows all the allowed audio routes and valid crosspoints allowed by the V-Series panel.

Note: Some of the audio paths shown on the block diagram are only available via the audio mixer function in ECS.

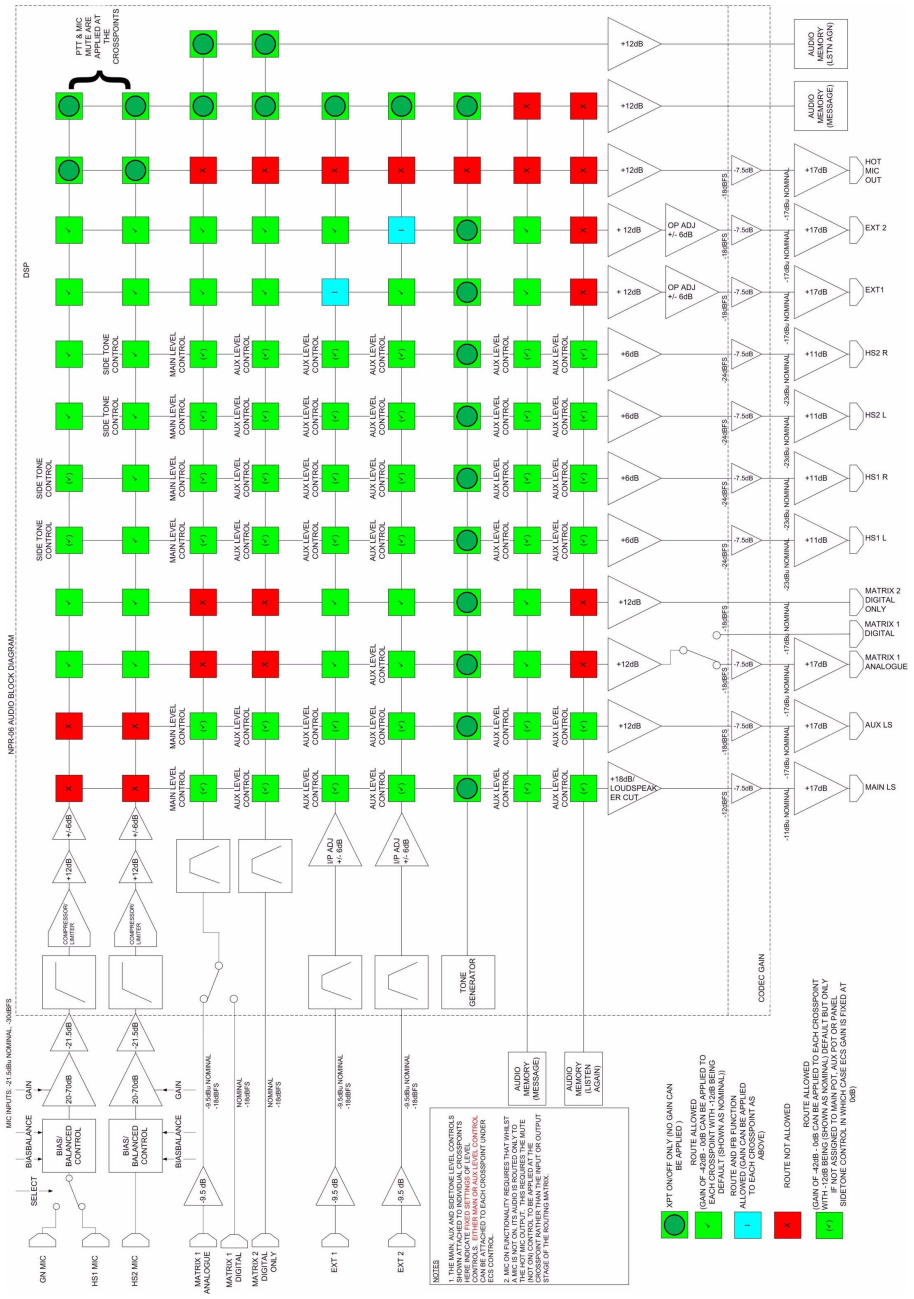
NPR-06 AUDIO BLOCK DIAGRAM
DSP
PTT & MIC MUTE ARE APPLIED AT THE CROSSPOINTS
+12dB
AUDIO MEMORY (LSTN AGN)
AUDIO MEMORY (MESSAGE)
HOT MIC OUT
EXT 2
EXT1
HS2 R
HS2 L
HS1 R
HS1 L
MATRIX 2 DIGITAL ONLY
MATRIX 1 DIGITAL
MATRIX 1 ANALOGUE
AUX LS
MAIN LS
OP ADJ +/- 6dB
+18dB/ LOUDSPEAKER CUT
SIDE TONE CONTROL
MAIN LEVEL CONTROL
AUX LEVEL CONTROL
IP ADJ +/- 6dB
TONE GENERATOR
CODEC GAN
MIC INPUTS -21.5dBu NOMINAL -30dBFS
SELECT
GAIN
BIAS/BALANCE
BIAS/ BALANCED CONTROL
COMPRESSOR LIMITER
+6dB
+12dB
-21.5dB
20-70dB
-9.5dB
-9.5 dB
-9.5dBu NOMINAL -18dBFS
NOMINAL -18dBFS
GN MIC
HS1 MIC
HS2 MIC
MATRIX 1 ANALOGUE
MATRIX 1 DIGITAL
MATRIX 2 DIGITAL ONLY
EXT 1
EXT 2
AUDIO MEMORY (MESSAGE)
AUDIO MEMORY (LISTEN AGAIN)
NOTES
1. THE MAIN, AUX AND SIDETONE LEVEL CONTROLS SHOWN ATTACHED TO EACH CROSSPOINT ON THIS DIAGRAM HERE INDICATE FIXED SETTINGS OF LEVEL. THESE ARE NOT USER ADJUSTABLE CONTROLS. CAN BE ATTACHED TO EACH CROSSPOINT UNDER ECS CONTROL.
2. MIC ON FUNCTIONALITY REQUIRES THAT WHILST A MIC IS ACTIVE (LATCHED OR MOMENTARY) AND THE HOT MIC OUTPUT, THIS REQUIRES THE MUTE FUNCTION TO BE APPLIED AT THE CROSSPOINT RATHER THAN THE INPUT OR OUTPUT STAGE OF THE ROUTING MATRIX.
XPT ON/OFF ONLY (NO GAIN CAN BE APPLIED)
ROUTE ALLOWED (GAIN OF -42dB - 0dB CAN BE APPLIED TO EACH CROSSPOINT WITH 1.5dB STEPS DEFAULT (SHOWN AS NOMINAL))
ROUTE AND P/B FUNCTION ALLOWED (GAIN CAN BE APPLIED TO EACH CROSSPOINT AS ABOVE)
ROUTE NOT ALLOWED
ROUTE ALLOWED (GAIN OF -42dB - 0dB CAN BE APPLIED TO EACH CROSSPOINT WITH 1.5dB STEPS, NORMALLY USED FOR IFB ONLY IF NOT ASSIGNED TO MAIN POT, AUX POT OR PANEL SIDETONE CONTROL IN WHICH CASE ECS GAIN IS FIXED AT 0dB)

Figure 1-20: V-Series Audio Block Diagram

2 OPERATION

PANEL MENU STRUCTURE

This chapter describes how to operate the V-Series panels.

V-Series panels have a number of options accessed via a menu system. To enter menu mode press the menu button on the front panel to display the top level menu. The menu indicator LED will light and various menu options will be displayed on the key displays.

Note: Access to the System Configuration, Local Preferences and Diagnostic menus is set from ECS. Depending on the ECS configuration, access to some or all of these menus may be disabled on the panel.

To navigate the menu levels on lever key or pushbutton panels use the lever key or push button corresponding to the display showing the required menu item to select the option required. For rotary panels use the talk button below the display showing the required menu item to select the option required. The selected menu options will then be displayed on the panel and the process is repeated until the panel item to be set or adjusted is reached. To return to the previous menu use the 'REPLY' key talk button which will display the name of the current menu in inverse video.

Note: V-Series panels running application code earlier than V1.73 need an IP license key to enable IP operation. V-series panels with application code V1.73 or later include IP operation as standard

For lever key panels in order to select a menu item the lever key should be pressed down (Talk); the up (Listen) direction is not active except in the case of the "View Keys" and "Local Keys" menus where both up and down (Talk and Listen) key presses will select the menu item.

To scroll through label lists use the up/down volume control buttons on lever key and pushbutton panels or the rotary encoder on rotary panels.

Up to eight expansion panels may be attached to a main panel. The expansion panels must be of the same type as the main panel ie. lever key, pushbutton or rotary. Each expansion panel provides an extra twelve keys.

Some menus can be accessed directly using the keypad on the 2RU and desktop panels. These are:

- 1 - Dial menu
- 2 - Local Exclusive
- 3 - Local page override
- 4 - Assignment Panel menu
- 5 - Local Key Assign menu
- 7- Local Preferences menu
- # - Fast Key Assign

When menus are accessed directly via the keypad the blue menu LED will light. To exit the menu options and return to the main page press the ‘Menu’ key on the front panel. The menu LED will be extinguished.

FAST KEY ASSIGN

The fast key assign facility on V-Series panels with keypads allows users to create and delete local key assignments. Before this facility can be used it must be enabled for the panel in ECS using the “Advanced Settings” facility (refer to the ECS manual part 810299Z for details).

To enter fast key assign mode on a panel press the ‘#’ key on the keypad. The Reply key will then display ‘FAST ASSN’ in inverted text.

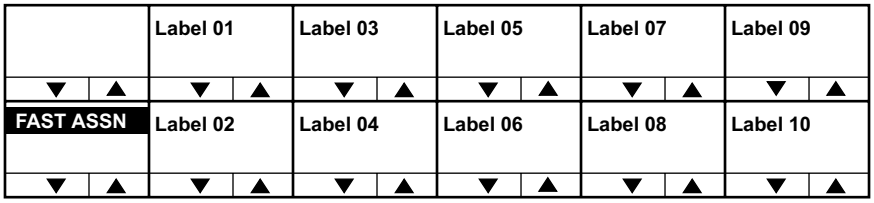

Figure 2-1: Fast Key Assign for Rack Mount Panels

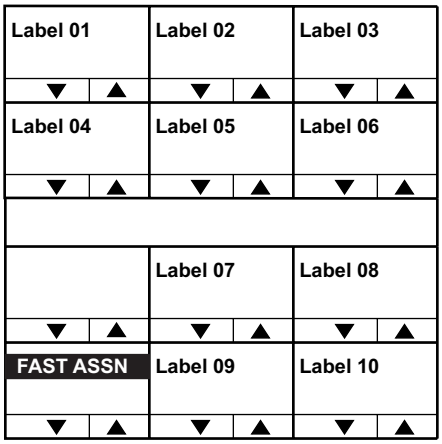

Figure 2-2: Fast Key Assign for Desktop Panels

Enter the destination panel port number as a string of 3 digits which will be echoed on the reply key display. The destination port numbers start at 600; port numbers below 600 are not valid. If a multiple matrix system is being used the destination port number must be prefixed by the system number. For example, if a single matrix is being used the system number prefix can be omitted and just the destination port number specified e.g. 609. In a system with three matrices port 609 on system 2 would be specified as 2609. Once a valid destination port number has been input the talk label for the destination port will be displayed on the reply key after the destination port number. If the destination port number entered is invalid the word ‘INVALID’ will be

displayed in the reply key. Press the '#' key to enter a new port number.

The destination port input must be terminated by pressing the '*' key. The full ten character label of the destination port will be displayed on the reply key and any keys on the current page that are available to be assigned will flash. If the destination is a member of a valid local sort group all the other valid members of that sort group can be accessed by using the up/down buttons or rotary encoder on the reply key to scroll through the sort group. Any other member of the sort group can be selected in this way for assignment.

If the destination port is a member of a sort group that is blocked for the panel the word 'BLOCKED' will be displayed in the reply key. Sort group permissions are set for panels in 'Advanced Settings' under 'Soft Mode Options' (please refer to the ECS manual part 810299Z for further information).

Select one of the flashing keys either by pressing the button (push button panel) or pressing the key down (lever key panel) or pressing the talk button (rotary panel) and the selected destination port will be assigned to that key. When a key has been assigned the Talk/Listen attributes will be set to those defined by ECS. The assigned key attributes can be changed later from the local panel menu. To exit assign mode press the 'Menu' button. The sequence is illustrated in Figure 2-3.

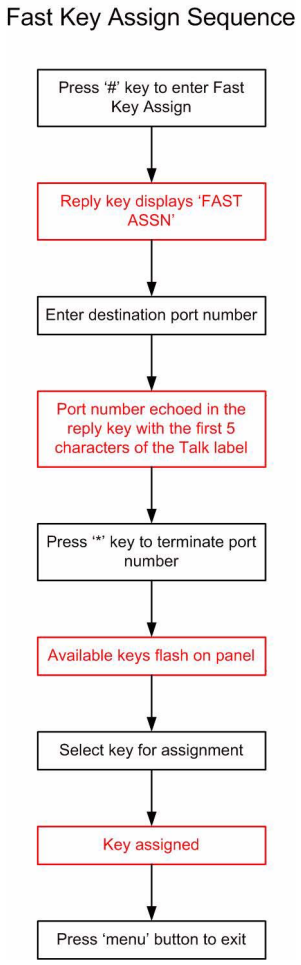
Fast Key Assign Sequence
Press '#' key to enter Fast Key Assign
Reply key displays 'FAST ASSN'
Enter destination port number
Port number echoed in the reply key with the first 5 characters of the Talk label
Press '*' key to terminate port number
Available keys flash on panel
Select key for assignment
Key assigned
Press 'menu' button to exit

Figure 2-3: Basic Steps to Fast Assign a Key

To delete a key assignment press the '#' key followed by the '*' key. The reply key will display 'DELETE?' and all the keys that can be deleted will flash. Press the button (push button panel) or press the key down (lever key panel) or press the talk button (rotary panel) on any of the flashing keys to have their assignments deleted. To exit delete mode press the 'Menu' button.

TOP LEVEL MENU

To enter the menu system press the 'MENU' button on the front panel to display the top level menu. The blue LED will light to indicate the panel is now in menu mode. If the menu button is pressed when the panel is already in menu mode then the panel will exit menu mode and the LED will be extinguished.

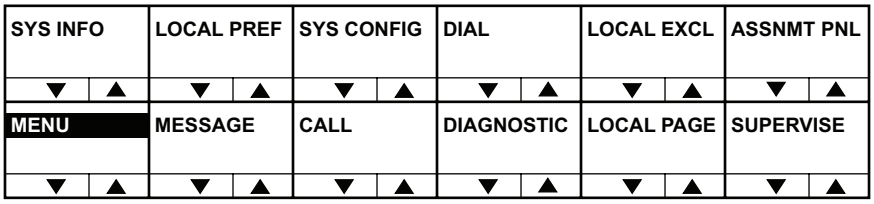

Figure 2-4: Main Menu Display for Rack Mount Panels

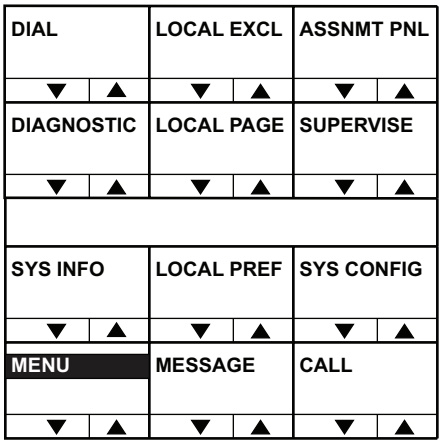

Figure 2-5: Main Menu Display for Desktop Panels

The main menu options are:

- SYS INFO - access to menu options allowing panel keys and nearby panels to be viewed.
- LOCAL PREF - access to the menu for setting up preferences on the panel such as brightness levels, timeouts and audio levels.
- SYS CONFIG - provides access to the local panel configuration, input levels adjustment and output levels adjustment.
- DIAL - allows manual dialling on panel types without a keypad.
- LOCAL EXCL - temporarily deactivates latched keys during Talk or Listen. Requires the matrix to be online.
- ASSNMT PNL - allows keys to be assigned locally to IFBs, Party Lines and Fixed Groups.
- MESSAGE - Record and review outgoing audio message.
- CALL - display the CALL menu allowing labels to placed on the answerback stack to create a temporary user key.
- DIAGNOSTIC - access the diagnostic menu to display system information, reset the panel and test audio links.

- LOCAL PAGE - allows the user to override destination volume settings to talk to these panels.
- SUPERVISE - puts the panel into supervisor mode to supervise other panels. The supervise option must be enabled for the panel in ECS for this menu option to be displayed. To enable the supervise option a features passcode must be entered into the “System Access Codes” tab under “System Preferences” (see the ECS manual for details). Please contact Clear-Com sales for further information.

To exit the menu press the Reply key (‘MENU’) or press the menu button again. The blue menu LED will be extinguished.

SYSTEM INFORMATION MENU

To select the ‘SYS INFO’ display use the lever key or pushbutton or talk button to display the system information menu. This menu allows the user to view all the Party Lines and Fixed Groups programmed on the local system.

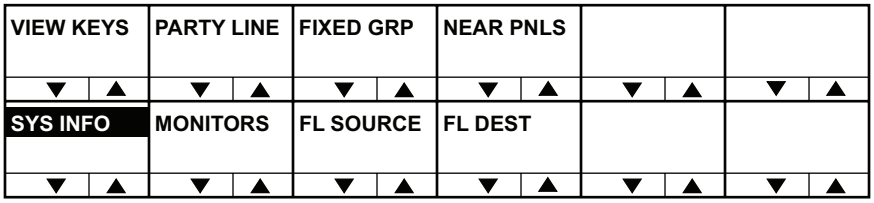

Figure 2-6: System Information Display for Rack Mount Panels

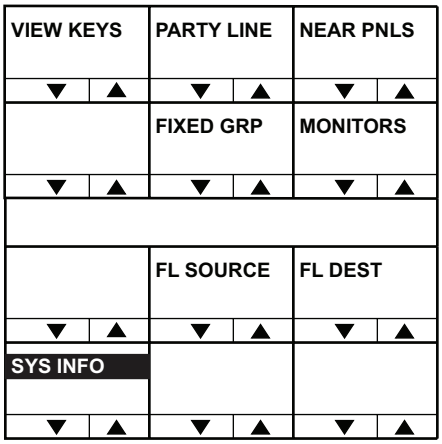

Figure 2-7: System Information Display for Desktop Panels

The SYS INFO menu provides access to the following functions:

- VIEW KEYS - view the panel key setups.
- PARTY LINE - list of Party Lines available and members of the Party Lines.

- FIXED GRP - list of Fixed Groups available and members of the Fixed Groups.
- NEAR PNLS - list of panels configured as nearby panels in ECS.
- MONITORS - list of panels monitoring this panel.
- FL SOURCE - list of forced listen sources available to the panel.
- FL DEST - list of forced listen destinations available to the panel.

To exit system information mode and return to main menu mode press the Reply key or Reply key talk button ('SYS INFO'). The main menu will be redisplayed.

View Keys Menu

To enter the 'VIEW KEYS' menu use the lever key or pushbutton or talk button to select the view keys function. The first level of the key information menus will be displayed.

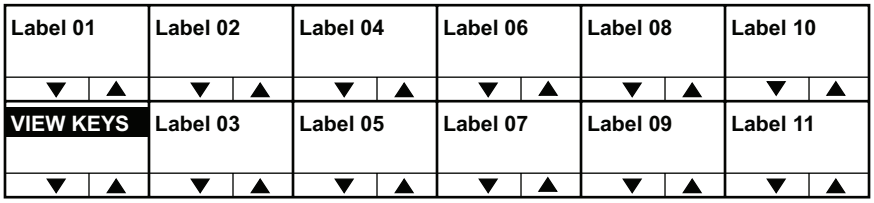

Figure 2-8: View Keys Display for Rack Mount Panels

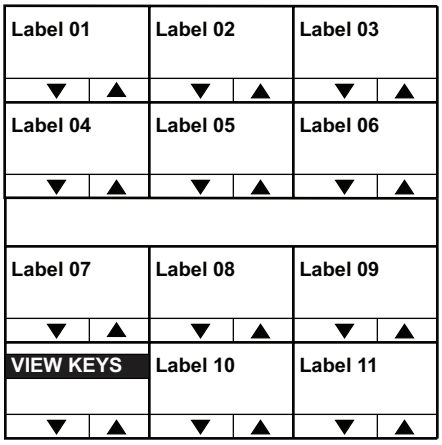

Figure 2-9: View Keys Display for Desktop Panels

Use the up/down volume buttons or rotary encoder on the Reply key ('VIEW KEYS') to scroll through the list of key labels.

Each label displayed allows access to the configuration information for that label. To display the information use the corresponding talk/listen

key or talk button to select the label and the information will be displayed. To exit view keys menu and return to the system information menu press the Reply key or Reply key talk button ('VIEW KEYS'). The system information menu will be redisplayed.

Key Info Menu

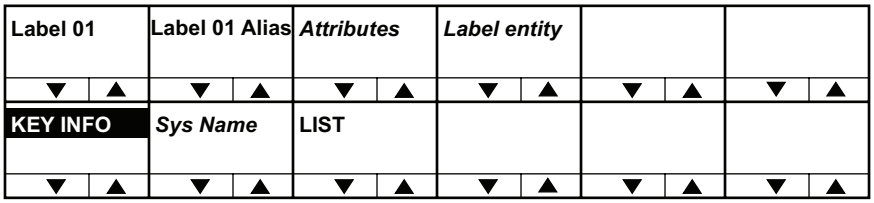

Figure 2-10: Key Info Display for Rack Mount Panels

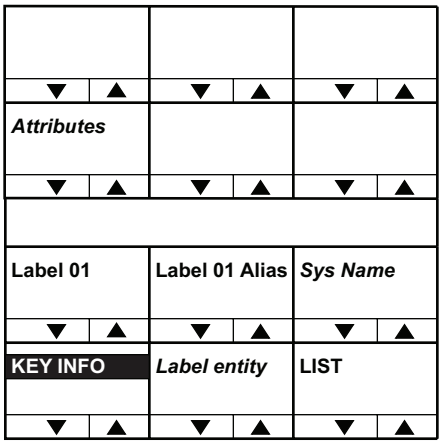

Figure 2-11: Key Info Display for Desktop Panels

The items in italics are system and configuration dependant as follows:

- Attributes - may be Talk, Talk + Lstn, Talk + FL, Dual T+L, Listen or Force Lstn
- Sys Name - name of the system that the entity the label refers to is attached to
- Label Entity - type of label, may be PORT, PL, IFB, FG. CONTROL
- LIST - this option will be displayed if the label is a fixed group. Pressing this key will display a list of the fixed group members (see "Fixed Group Menu").

To exit the key info menu and return to the view keys menu press the Reply key or Reply key talk button ('KEY INFO'). The view keys menu will be redisplayed.

Party Line Menu

The party line menu option displays the party lines available to the panel.

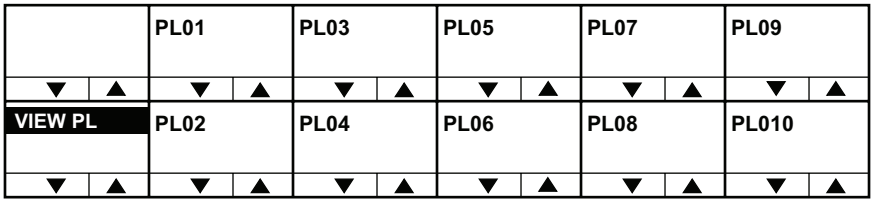

Figure 2-12: Party Line Menu for Rack Mount Panels

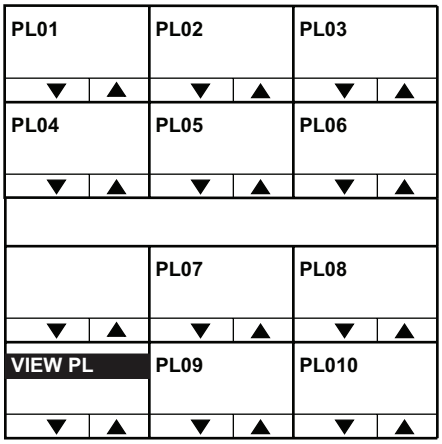

Figure 2-13: Party Line Menu for Desktop Panels

Using the up/down volume buttons or the rotary encoder on the Reply key ('VIEW PL') will scroll through the available party lines on the panel display. Selecting one of the party lines will display the membership menu for that party line. To exit the view party line menu and return to the system information menu press the Reply key or Reply key talk button ('VIEW PL'). The system information menu will be redisplayed.

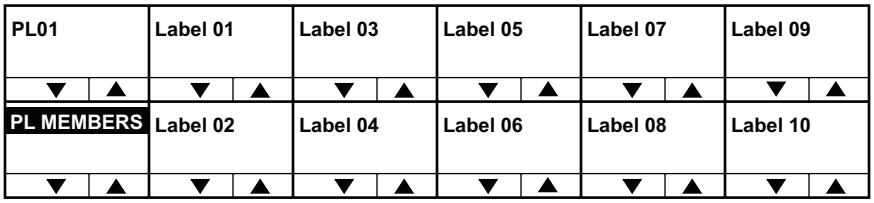

Figure 2-14: Party Line Labels for Rack Mount Panels

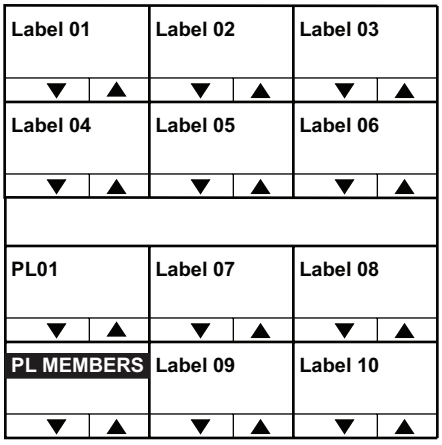

Figure 2-15: Party Line Labels for Desktop Panels

Using the volume up/down buttons or the rotary encoder on the Reply key ('PL MEMBERS') will scroll through the list of party line members. To exit the party line members menu and return to the view party line menu press the Reply key or Reply key talk button ('PL MEMBERS'). The view party line menu will be redisplayed.

Where members have been assigned to a Party Line using Production Maestro rather than ECS these members will not be displayed. This is due to such assignments being temporary rather than fixed in the ECS configuration.

Fixed Group Menu

The Fixed Group menu displays a list of all the Fixed Groups available to the panel.

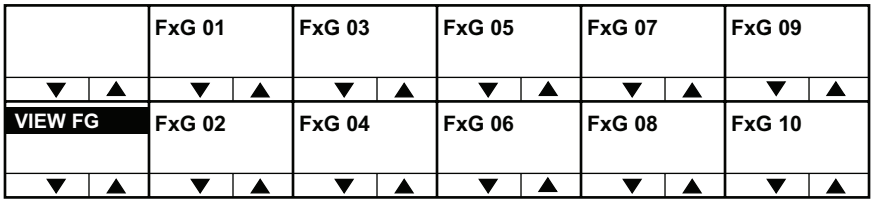

Figure 2-16: Fixed Group List for Rack Mount Panels

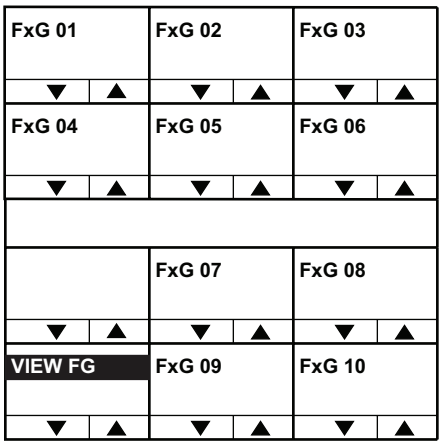

Figure 2-17: Fixed Group Menu for Desktop Panels

Using the Reply key ('VIEW FG') up/down volume buttons or rotary encoder will scroll through the available fixed groups on the panel display. Selecting one of the fixed groups will display the membership for that fixed group. To exit the view fixed groups menu and return to the system information menu press the Reply key or Reply key talk button ('VIEW FG'). The system information menu will be redisplayed.

Figure 2-18: Fixed Group Labels for Rack Mount Panels

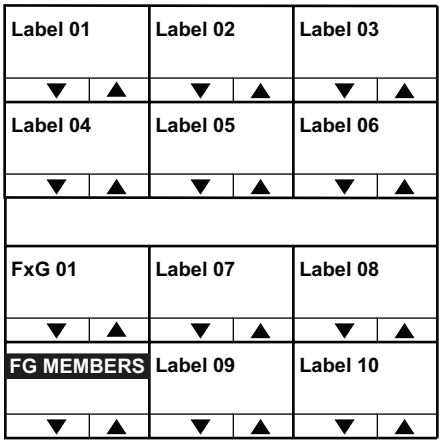

Figure 2-19: Fixed Group Labels for Desktop Panels

Using the volume up/down buttons or rotary encoder on the Reply key ('FG MEMBERS') will scroll through the list devices that are members of the fixed group. To exit the fixed group members menu and return

to the view fixed group menu press the Reply key or Reply key talk button (‘FG MEMBERS’). The view fixed group menu will be redisplayed.

Nearby Panels Menu

Selecting the ‘NEAR PNLS’ option on the main menu will display the labels associated with panels configured as ‘Nearby Panels’ in ECS.

Panels designated as ‘Nearby Panels’ are within hearing distance of each other and an audio link between panels could result in an audio feedback loop (‘howlround’). Audio paths to panels designated as nearby panels cannot be established.

Figure 2-20: Nearby Panels Display for Rack Mount Panels

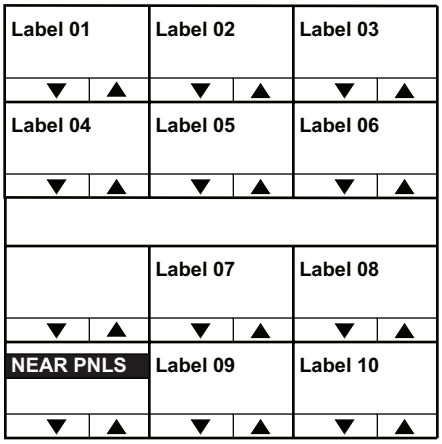

Figure 2-21: Nearby Panels Display for Desktop Panels

Using the up/down volume buttons or rotary encoder on the Reply key (‘NEAR PNLS’) will scroll through the list of nearby panels. To exit the nearby panels menu and return to the system information menu press the Reply key or Reply key talk button (‘NEAR PNLS’). The system information menu will be redisplayed.

Monitor Menu

The ‘MONITOR’ menu will display a list of the ports monitoring the current panel.

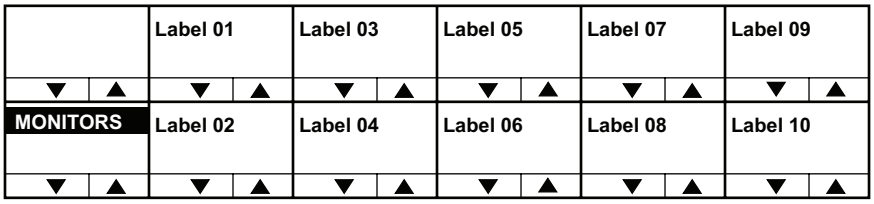

Figure 2-22: Monitor Menu for Rack Mount Panels

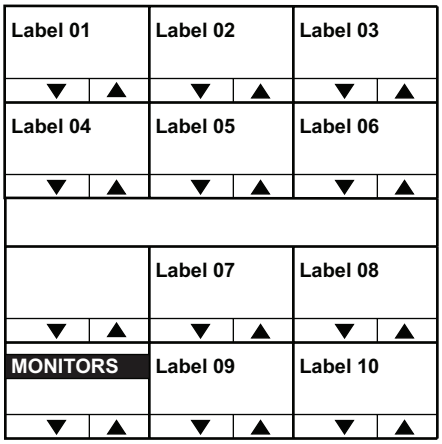

Figure 2-23: Monitor Menu for Desktop Panels

Using the up/down buttons or rotary encoder on the Reply key ('MONITORS') will scroll through the list of monitoring ports. To exit the monitors menu and return to the system information menu press the Reply key or Reply key talk button ('MONITORS'). The system information menu will be redisplayed.

Forced Listen Source Menu

The 'FL SOURCE' menu allows the operator to list all the forced listen sources configured in the system. A forced listen is a permanently enabled audio path set up in ECS between a source and a destination allowing the destination to listen to the source without the source having to activate a talk key. For details on setting up a forced listen in ECS please refer to "Panel Programming" in the ECS manual.

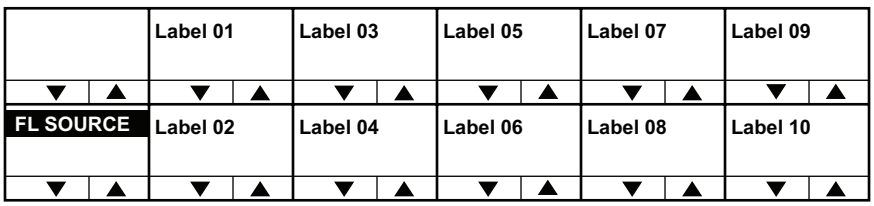

Figure 2-24: Forced Listen Source Interfaces for Rack Mount Panels

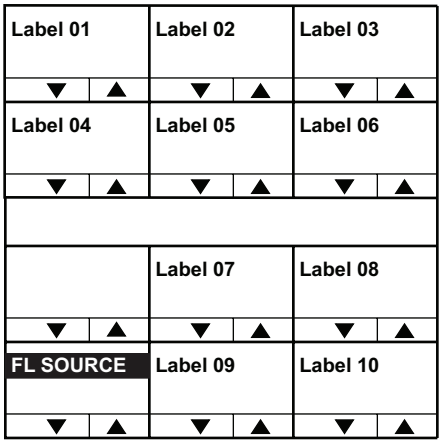

Figure 2-25: Forced Listen Source Interfaces for Desktop Panels

Using the up/down volume buttons or rotary encoder on the Reply Key ('FL SOURCE') will scroll through the list of forced listen sources. To exit the forced listen source menu and return to the system information menu press the Reply key or Reply key talk button ('FL SOURCE'). The system information menu will be redisplayed.

Forced Listen Destination Menu

Pressing the 'FL DEST' key or talk button will display all the forced listen destinations configured on the panel.

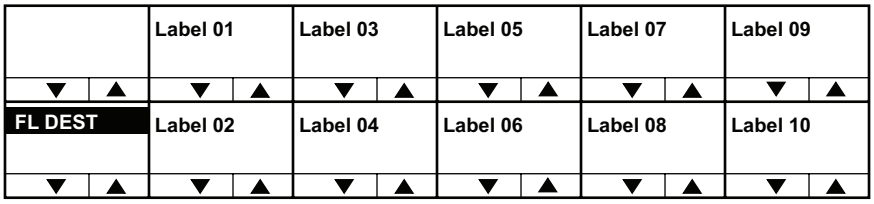

Figure 2-26: Forced Listen Destinations for Rack Mount Panels

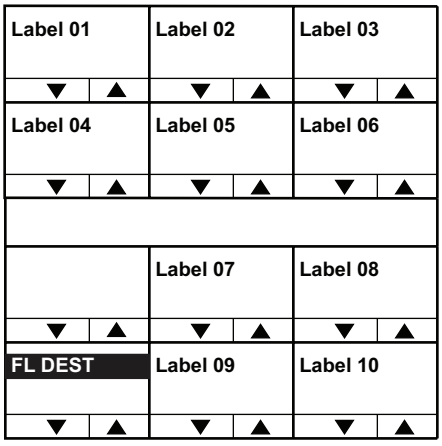

Figure 2-27: Forced Listen Destinations for Desktop Panels

Using the volume up/down buttons or rotary encoder on the Reply Key (‘FL DEST’) will scroll through the list of forced listen destinations. To exit the forced listen destination menu and return to the system information menu press the Reply key or Reply key talk button (‘FL DEST’). The system information menu will be redisplayed.

LOCAL PREFERENCES MENU

Selecting the ‘LOCAL PREF’ option on the main menu will display panel setups that may be changed locally rather than by ECS. If the PIN code has been enabled in ECS the panel will request PIN code entry before allowing access to the local preferences menu.

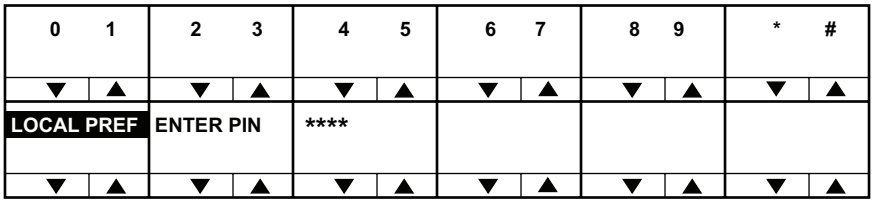

Figure 2-28: Local Preferences PIN Code Request

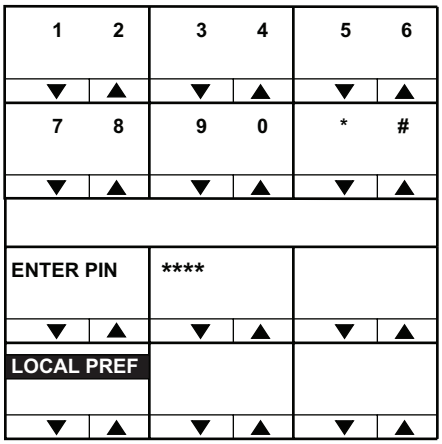

Figure 2-29: Local Preferences PIN Code Request

On lever key and pushbutton panels enter the PIN code using the volume up/down buttons under each number.

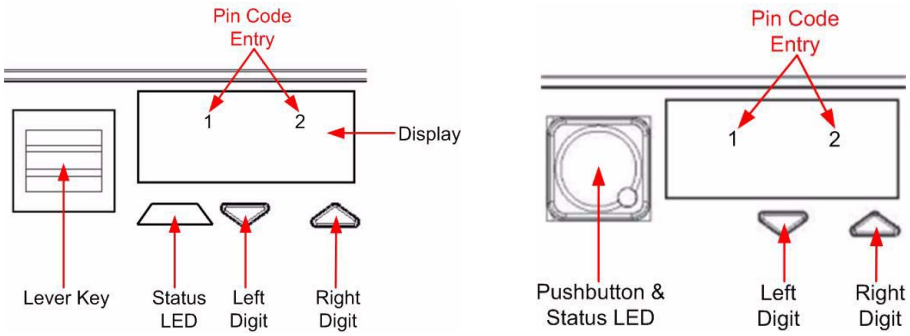

Figure 2-30: Lever and Pushbutton PIN Code Input

On rotary panels press the rotary encoder to select the left hand digit and the talk button to select the right hand digit in the display.

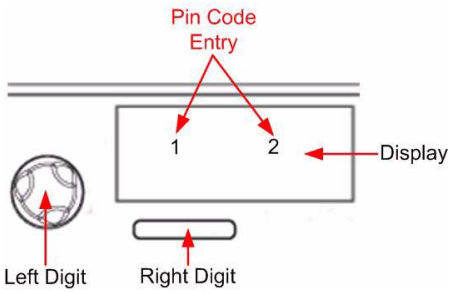

Figure 2-31: Rotary Control PIN Code Input

The PIN code digits will be echoed as 'X' in the PIN code entry window.

TIMEOUTS	**LEVEL ADJ**				
▼ ▲	▼ ▲	▼ ▲	▼ ▲	▼ ▲	▼ ▲
LOCAL PREF	**BRIGHTNESS**		**RESET XPTS**		
▼ ▲	▼ ▲	▼ ▲	▼ ▲	▼ ▲	▼ ▲

Figure 2-32: Local Preferences Display for Rack Mount Panels

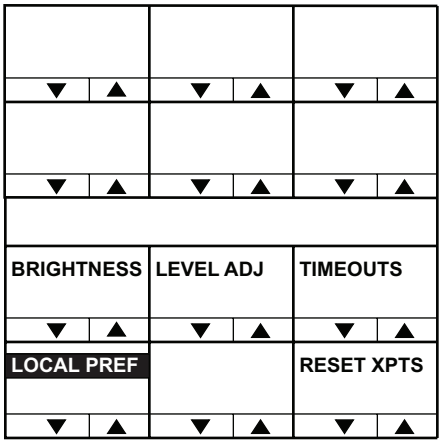

Figure 2-33: Local Preferences Display for Desktop Panels

The panel menu items are:

- TIMEOUTS - displays the timeouts setting menu.
- LEVEL ADJ - displays the menu to set the audio levels for the microphones, headset and loudspeaker.
- BRIGHTNESS- displays the brightness setup menu that allows the brightness of all labels and LEDs to be adjusted.
- RESET XPTS - displays the menu for resetting the panel crosspoints to default level.

To exit the local preferences menu and return to the main menu press the Reply key or Reply key talk button ('LOCAL PREF'). The main menu will be redisplayed.

Timeouts

Selecting 'TIMEOUTS' from the local preferences menu will display the answerback and Listen Again timeouts setup menu.

The answerback timeout controls the length of time an unanswered call remains in the reply key stack. If the value is set to 'OFF' (0 seconds) or the function is disabled calls will remain in the reply key stack until actioned.

The Listen Again timeout controls the length of time before recorded messages are auto deleted and may be set to a value of 0 to 99 minutes in units of 1 minute. If the timeout is set to 99 the messages are not auto-deleted. If the timeout is set to 0 the Listen Again facility is disabled so no audio is recorded. This timeout can be used to ensure that recorded conversations are not left on a panel where they may be accessed later by other operators.

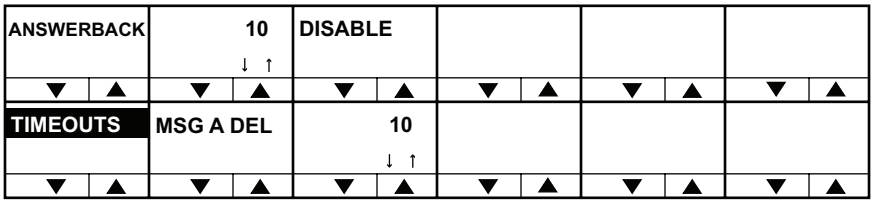

Figure 2-34: Timeout Display for Rack Mount Panels

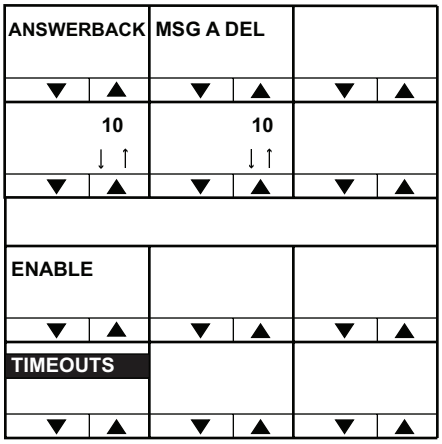

Figure 2-35: Timeout Display for Desktop Panels

- ANSWERBACK - allows the panel answerback timeout to be set to a value from 0 (OFF) to 60 seconds in 10 second steps.
- DISABLE - selecting this items disables answerback timeout.
- MSG A DEL - allows the panel Listen Again timeout to be set to a value of 0 to 99 minutes. If the timeout is set to 0 the Listen Again facility is disabled (no audio recorded). If the timeout is set to 99 the messages are not auto-deleted.

To exit the time-outs menu and return to the local preferences menu press the Reply key or Reply key talk button ('TIMEOUTS'). The local preferences menu will be redisplayed.

Level Adjust Menu

Selecting the ‘LEVEL ADJ’ menu item in the local preferences menu will display the audio levels setup menu.

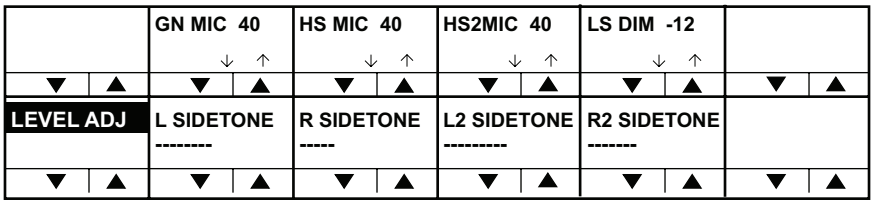

Figure 2-36: Level Adjust Display for Rack Mount Panels

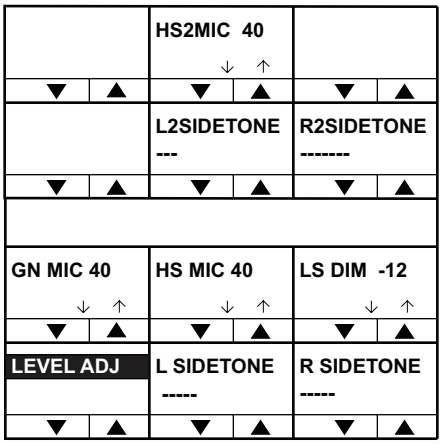

Figure 2-37: Level Adjust Display for Rack Desktop Panels

This menu adjusts the audio gain values for gooseneck panel microphone and headset microphones to preset levels of 20, 40, 50, 60, 70 or 80 db. The sidetone levels can be set for the first headset (front panel connector) and the second headset (auxiliary audio connector).

- GN MIC - gooseneck microphone gain setting. This is adjusted using the up/down buttons or rotary encoder.
- HS MIC - headset microphone gain setting. This is adjusted using the up/down buttons or rotary encoder.
- HS2MIC - second headset microphone gain setting. This is adjusted using the up/down buttons or rotary encoder.
- LS DIM - how much the loudspeaker is dimmed when a talk key is pressed (-70dB, -20dB, -12dB, -6dB, -3dB, 0dB). This is adjusted using the up/down button or rotary encoder.
- L SIDETONE - first headset left sidetone level. The key status (lever key) or pushbutton or talk button (rotary) is illuminated red when the left sidetone is on. To toggle left sidetone between ON and OFF press the pushbutton or press the lever key down or press the talk button (rotary). Use the

up/down buttons or rotary encoder to adjust the left sidetone level. The default sidetone level is -9dB, the minimum level is -15.5dB.

- R SIDETONE - first headset right sidetone level. The key status (lever key) or pushbutton or talk button (rotary) is illuminated red when the right sidetone is on. To toggle right sidetone between ON and OFF press the key pushbutton or press the lever key down or press the talk button (rotary). Use the up/down buttons or rotary encoder to adjust the right sidetone level. The default sidetone level is -9dB, the minimum level is -15.5dB.
- L2SIDETONE - second headset left sidetone level. The key status (lever key) or pushbutton or talk button (rotary) is illuminated red when the left sidetone for the second headset is on. To toggle left sidetone between ON and OFF press the key pushbutton or press the lever key down or press the talk button (rotary). Use the up/down buttons or rotary encoder to adjust the second headset left sidetone level. The default sidetone level is -9dB, the minimum level is -15.5dB.
- R2SIDETONE - second headset right sidetone level. The key status (lever key) or pushbutton or talk button (rotary) is illuminated red when the right sidetone for the second headset is on. To toggle right sidetone between ON and OFF press the key pushbutton or press the lever key down or press the talk button (rotary). Use the up/down buttons or rotary encoder to adjust the second headset right sidetone level. The default sidetone level is -9dB, the minimum level is -15.5dB.

Note: When a monaural headset is being used only the headset left sidetone adjust operates; the right sidetone adjust has no effect.

To exit the level adjust menu and return to the local preferences menu press the Reply key or Reply key talk button (‘LEVEL ADJ’). The local preferences menu will be redisplayed.

Brightness Menu

Selecting the ‘BRIGHTNESS’ item in the local preferences menu will display the brightness adjustment menu.

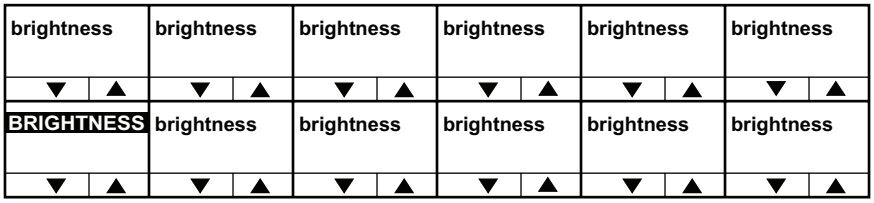

Figure 2-38: Brightness Adjustment Display for Rack Mount Panels

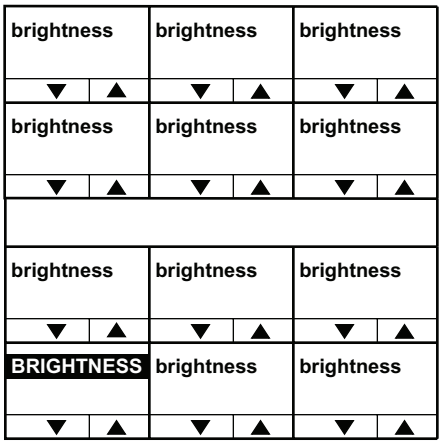

Figure 2-39: Brightness Adjustment Display for Desktop Panels

Using the up/down buttons or rotary encoder on the reply key will alter the brightness of the displays. The displays will automatically dim after the time limit set in ECS Panel Options (from 0 to 60 minutes) where 0 minutes sets the panel display to dim mode permanently. After a further period the display will change to provide a screensaver to increase the lifetime of the displays. To exit the brightness menu and return to the local preferences menu press the Reply key or Reply key talk button (‘BRIGHTNESS’). The local preferences menu will be redisplayed.

Messages Menu

Selecting ‘MESSAGE’ from the local preferences menu displays the message menu allowing an outgoing messages to be recorded, reviewed, output to audio and erased.

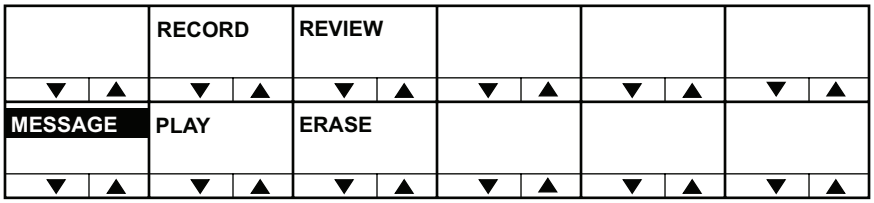

Figure 2-40: Messages for Rack Mount Panels

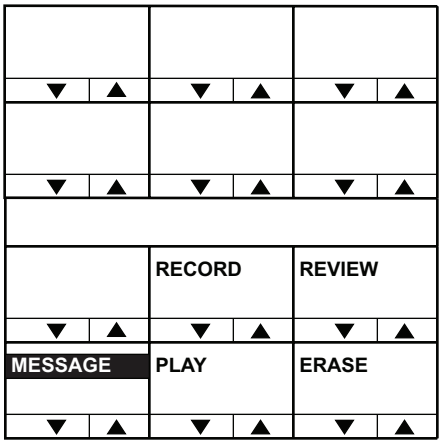

Figure 2-41: Messages for Desktop Panels

The following functions are available for outgoing messages on V-Series panels:

- RECORD - when the RECORD button is pressed and held the text will invert and up to 10 seconds of audio from the microphone can be recorded into an audio file on the panel.
- REVIEW when the REVIEW button is pressed the text will invert and the outgoing message will be played to the currently selected output device (Headset or Loudspeaker).
- PLAY - when the PLAY button is pressed the text will invert and the outgoing message will be output to the route configured by ECS. This will normally be Matrix 1 or Matrix 2 but may be the EXT1 or EXT2 output.
- ERASE - when the ERASE button is pressed the current outgoing message will be erased.

To exit the message menu and return to the local preferences menu press the Reply key or Reply key talk button (‘MESSAGE’). The local preferences menu will be redisplayed.

Once recorded the message can be used by selecting a talk path set up on the panel, entering the message menu and pressing ‘PLAY’. The recorded message will then be output to the talk path until cancelled. If the talk path connects to another panel it should be heard as an incoming talk on the target panel and allows audio paths to be verified between ports.

Reset Crosspoints Menu

Reset Xpts

Selecting ‘RESET XPTS’ from the local preferences menu displays the reset crosspoints menu offering the option to reset the panel crosspoints to their default levels.

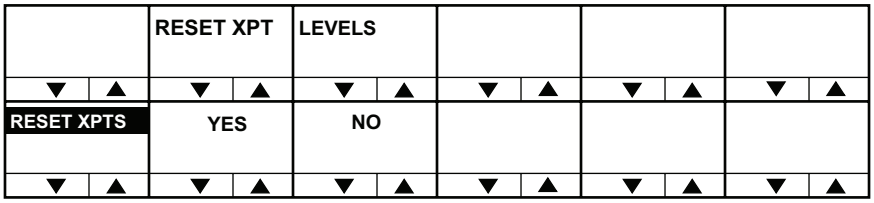

Figure 2-42: Reset Crosspoints Display for Rack Mount Panels

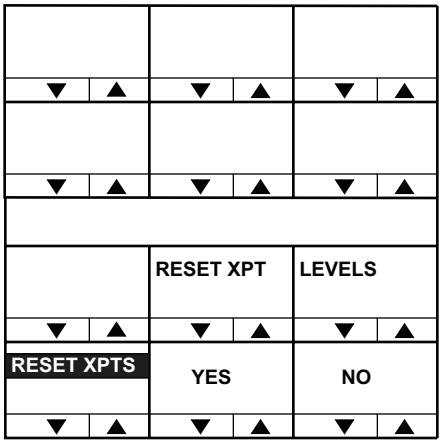

Figure 2-43: Reset Crosspoints Display for Desktop Panels

Press the ‘YES’ key or pushbutton or talk button to reset the panel crosspoint levels to their default settings or the ‘NO’ key to cancel the operation and return the user to the local preferences menu. To exit the reset crosspoints menu and return to the local preferences menu press the Reply key or Reply key talk button (‘RESET XPTS’). The local preferences menu will be redisplayed.

SYSTEM CONFIGURATION MENU

Selecting ‘SYS CONFIG’ from the top level menu will display the system configuration menu for the panel. If the PIN code has been enabled in ECS the panel will request PIN code entry before allowing access to the system configuration menu.

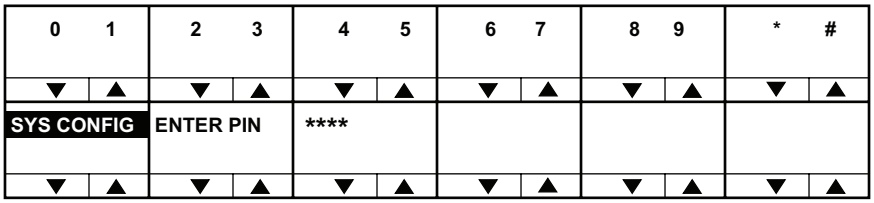

Figure 2-44: System Configuration PIN Code Request

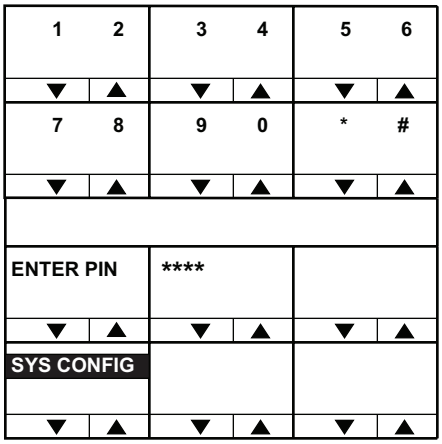

Figure 2-45: System Configuration PIN Code Request

On lever key or pushbutton panels enter the PIN code using the volume up/down buttons under each number. On rotary panels press the rotary encoder to select the left hand digit and the talk button to select the right hand digit in the display. The PIN code digits will be shown as ‘*’ in the PIN code entry window.

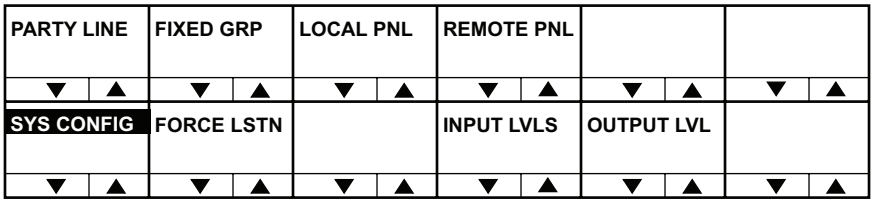

Figure 2-46: System Configuration Menu for Rack Mount Panels

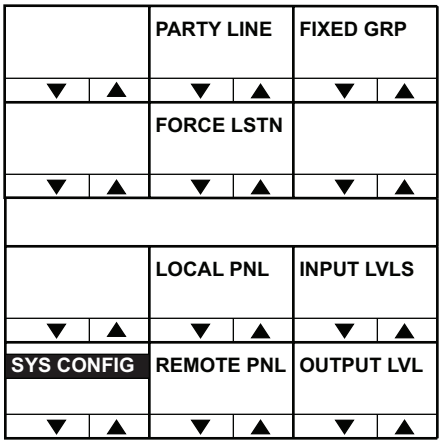

Figure 2-47: System Configuration Menu for Desktop Panels

- PARTY LINE - displays the Party Line configuration menu. This allows interfaces and panels to be assigned to a party line.
- FIXED GRP - displays the Fixed Group configuration menu. This allows interfaces and panels to be assigned to a fixed group.
- REMOTE PNL - displays the Remote Panel configuration menu.
- LOCAL PNL - displays the menu to configure the local panel and modify the attributes of the keys.
- FORCE LSTN - displays the Forced Listen configuration menu. This allows sources and destinations configured as keys on the current panel to be set as forced listens.
- INPUT LVLS - displays the menu to set input audio levels.
- OUTPUT LVL - displays the menu to set output audio levels.

To exit the system configuration menu and return to the main menu press the Reply key or Reply key talk button ('SYS CONFIG'). The main menu will be redisplayed.

Party Line

The party line menu will allow party lines 1 - 10 to be configured by adding panels and interfaces to the party lines as members.

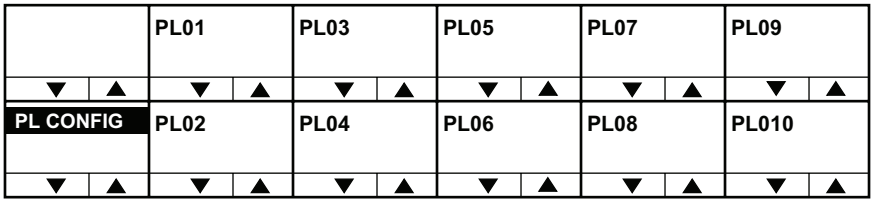

Figure 2-48: Party Line Menu for Rack Mount Panels

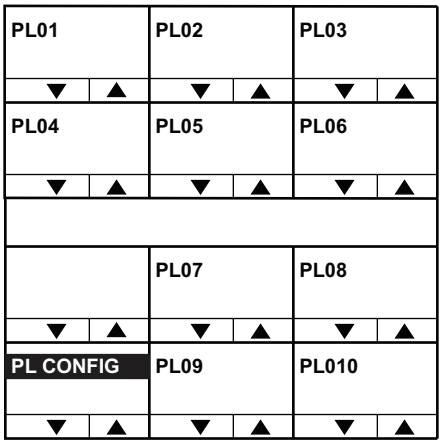

Figure 2-49: Party Line Menu for Desktop Panels

Using the up/down volume buttons (lever key or pushbutton panels) or rotary encoder on the Reply Key ('PL CONFIG') will scroll through the available party lines on the panel display. Selecting one of the party lines will display the membership menu for that party line. To exit the party line configuration menu and return to the system configuration menu press the Reply key or Reply key talk button ('PL CONFIG'). The system configuration menu will be redisplayed.

Party Line Membership Menu

The party line membership menu allows interfaces and panels to be added to or removed from a party line.

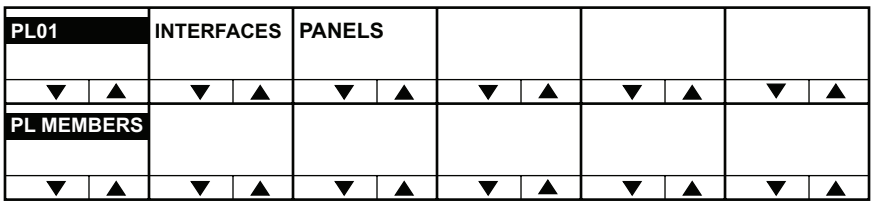

Figure 2-50: Party Line Membership for Rack Mount Panels

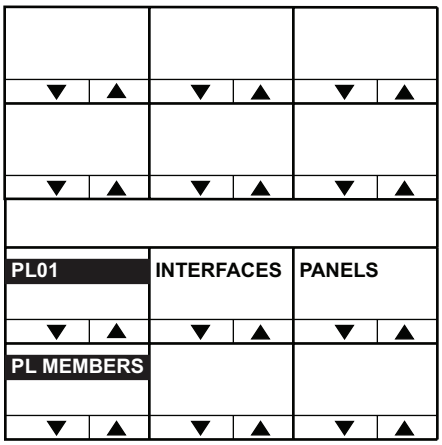

Figure 2-51: Party Line Membership for Desktop Panels

Selecting ‘INTERFACES’ will display the list of interfaces that may be members of the party line. To exit the party line members menu and return to the party line configuration menu press the Reply key or Reply key talk button (‘PL MEMBERS’). The party line configuration menu will be redisplayed.

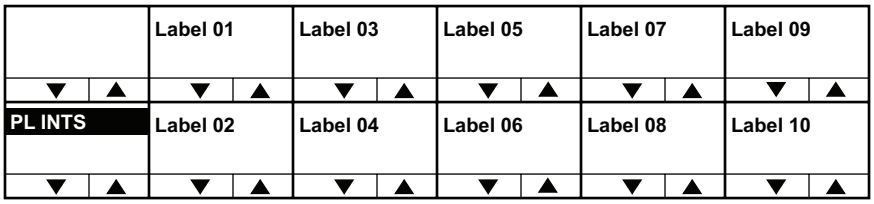

Figure 2-52: Party Line Labels for Rack Mount Panels

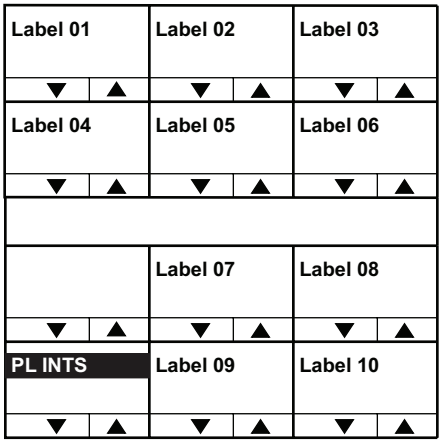

Figure 2-53: Party Line Labels for Desktop Panels

Using the volume up/down buttons (lever key and pushbutton panels) or rotary encoder on the Reply Key (‘PL INTS’) will scroll through the list of possible interfaces. If an interface is a member of the party line a selection bar will be displayed under the interface name. To select or

deselect a label press the lever key/button or talk button next to the required label and the interface will either be added to the party line membership or removed from the party line membership. To exit the party line interfaces menu and return to the party line members menu press the Reply key or Reply key talk button (‘PL INTS’). The party line members menu will be redisplayed.

Selecting ‘PANELS’ from the party line members menu will display a list of panels that may be members of the party line. To exit the party line members menu and return to the party line configuration menu press the Reply key or Reply key talk button (‘PL MEMBERS’). The party line configuration menu will be redisplayed.

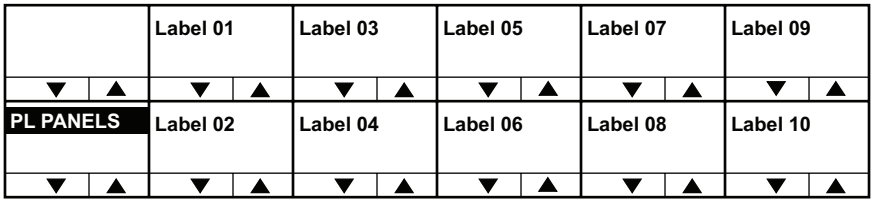

Figure 2-54: Party Line Labels for Rack Mount Panels

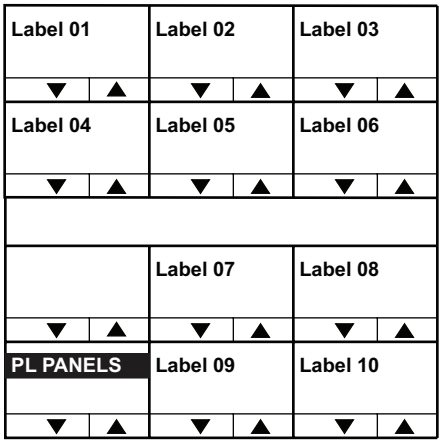

Figure 2-55: Party Line Labels for Desktop Panels

Using the volume up/down buttons (lever key and pushbutton panels) or the rotary encoder on the Reply Key (‘PL PANELS’) will scroll through the list of possible panels. If a panel is a member of the party line a selection bar will be displayed under the panel name. To select or deselect a panel press the lever key/button or talk button next to the required label and the panel will either be added to the party line membership or removed from the party line membership. To exit the party line panels menu and return to the party line members menu press the Reply key or Reply key talk button (‘PL PANELS’). The party line members menu will be redisplayed.

Fixed Group

The Fixed Group menu will allow fixed groups to be configured by adding panels and interfaces to the fixed groups as members.

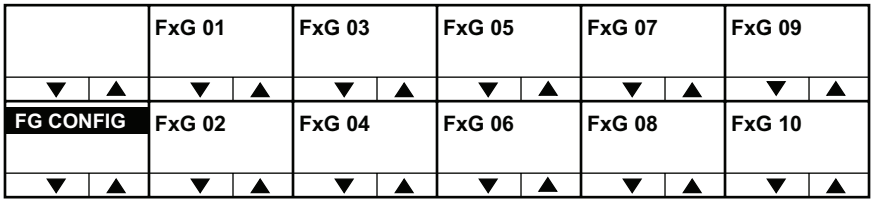

Figure 2-56: Fixed Group Menu for Rack Mount Panels

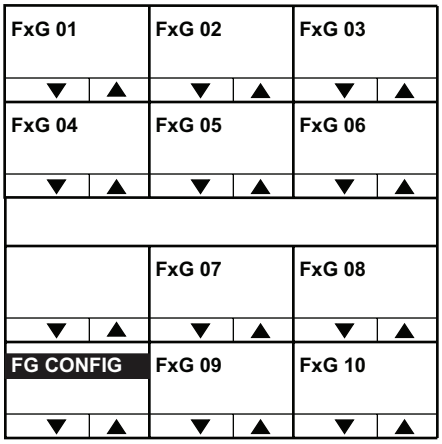

Figure 2-57: Fixed Group Menu for Desktop Panels

Use the volume up/down buttons (lever key or pushbutton panels) or rotary encoder on the Reply Key (‘FG CONFIG’) to scroll through the available fixed groups on the panel display. Selecting one of the fixed groups will display the membership menu for that fixed group. To exit the fixed group configuration menu and return to the system configuration menu press the Reply key or Reply key talk button (‘FG CONFIG’). The system configuration menu will be redisplayed.

Fixed Group Membership Menu

When a fixed group is selected from the Fixed Group configuration list the membership editing menu will be displayed. To exit the fixed group members menu and return to the fixed group configuration menu press the Reply key or Reply key talk button (‘FG MEMBERS’). The fixed group configuration menu will be redisplayed.

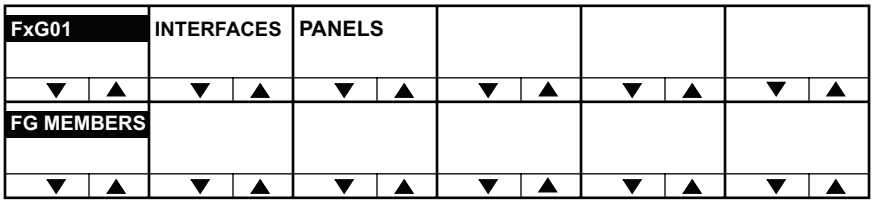

Figure 2-58: Fixed Group Membership for Rack Mount Panels

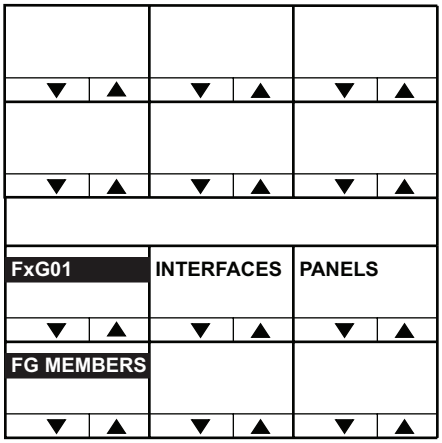

Figure 2-59: Fixed Group Membership for Desktop Panels

Selecting ‘INTERFACES’ will display a list of the interfaces that may be members of the fixed group.

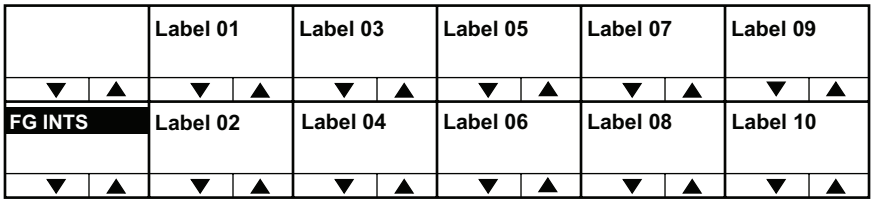

Figure 2-60: Fixed Group Labels for Rack Mount Panels

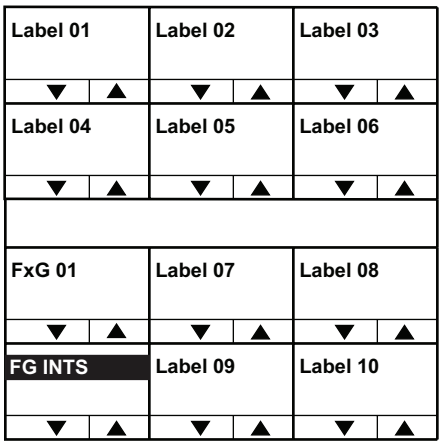

Figure 2-61: Fixed Group Labels for Desktop Panels

Using the volume up/down buttons (lever key or pushbutton panels) or rotary encoder on the Reply Key ('FG INTS') will scroll through the list of possible interfaces. If an interface is a member of the fixed group a selection bar will be displayed under the label name. To select or deselect an interface press the lever key/button or talk button next to the required interface and the interface will either be added to the fixed group membership or removed from the fixed group membership. To exit the fixed group interfaces menu and return to the fixed group members menu press the Reply key or Reply key talk button ('FG INTS). The fixed group members menu will be redisplayed.

Selecting 'PANELS' will display a list of the panels that may be members of the fixed group.

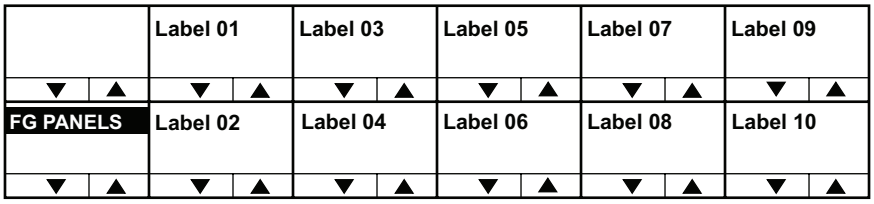

Figure 2-62: Fixed Group Labels for Rack Mount Panels

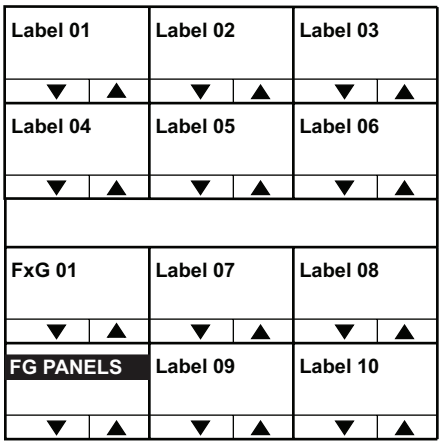

Figure 2-63: Fixed Group Labels for Desktop Panels

Using the volume up/down buttons (lever key or pushbutton panels) or rotary encoder on the Reply key (‘FG PANELS’) will scroll through the list of possible panels. If a panel is a member of the fixed group a selection bar will be displayed under the panel name. To select or deselect a panel press the lever key/button or talk button next to the required panel and the panel will either be added to the fixed group membership or removed from the fixed group membership. To exit the fixed group panels menu and return to the fixed group members menu press the Reply key or Reply key talk button (‘FG PANELS’). The fixed group members menu will be redisplayed.

Local Panel Menu

Selecting the ‘LOCAL PNL’ item in the system configuration menu will display the local panel configuration menu.

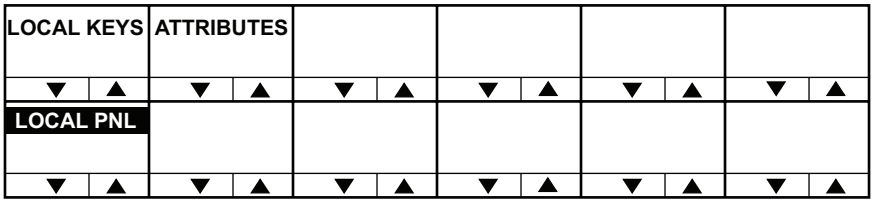

Figure 2-64: Local Panel Menu for Rack Mount Panels

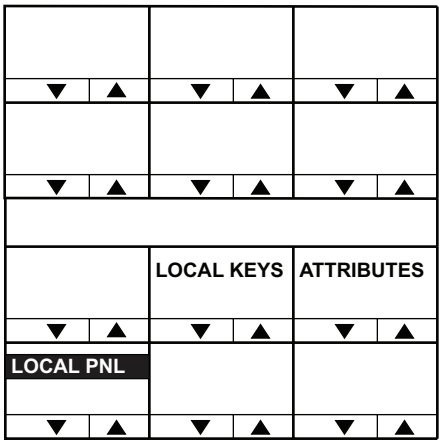

Figure 2-65: Local Panel Menu for Desktop Panels

- LOCAL KEYS - displays the menu to assign keys on the panel.
- ATTRIBUTES - displays the attributes menu to allow the properties of the panel keys to be set.

To exit the local panel menu and return to the system configuration menu press the Reply key or Reply key talk button ('LOCAL PNL'). The system configuration menu will be redisplayed.

Attributes Menu

Selecting the 'ATTRIBUTES' item from the local panel menu will display the attributes menu.

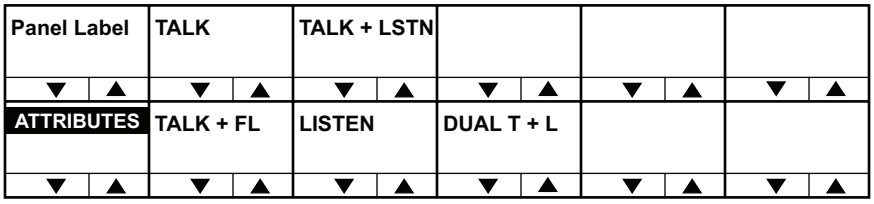

Figure 2-66: Panel Attributes Menu for Rack Mount Panels

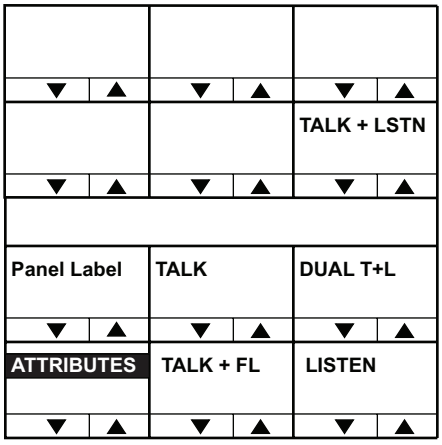

Figure 2-67: Panel Attributes Menu for Desktop Panels

This menu allows the user to set the attributes of a panel key to TALK, LISTEN, TALK + LSTN, TALK + FL or DUAL T+L.

- TALK sets a talk from this panel to a destination with no automatic listen to the destination.
- LISTEN sets a key to listen to the source without talking to the destination at the same time. Use as a monitor key. Use the volume level up/down buttons under the display (lever key and pushbutton panels) or rotary encoder to increase listen level.
- TALK + LSTN sets a talk key with listen. Use the volume level up/down buttons under the display (lever key and pushbutton panel) or rotary encoder to increase or mute the listen level.
- TALK+FL sets a talk key with permanently made listen. Use the volume level up/down buttons under the display (lever key and pushbutton panels) or rotary encoder to increase or mute the listen level.
- DUAL T+L sets a Dual talk and listen key (use only on pushbutton panel types). This makes the pushbutton activate a Talk and Listen on a press and hold or latch a Listen with a short press and release (less than 200ms) on the same pushbutton.

To exit the Attributes menu and return to the system configuration menu press the Reply key or Reply key talk button (‘ATTRIBUTES’). The system configuration menu will be redisplayed.

Local Keys Menu

The ‘LOCAL KEYS’ menu allows the panel user to select a key and display what is configured on that key. For lever key panels pressing the key up will display the listen label while pressing the lever key down will display the talk label. In the case of pushbutton panels pressing the pushbutton will display the talk or listen label that is

configured for that key (only one can be configured per key on a pushbutton panel). For rotary panels press the rotary encoder to display the listen label and the talk button to display the talk label. To exit the local keys menu and return to the system configuration menu press the Reply key or reply key talk button ('Local Keys'). The system configuration menu will be redisplayed.

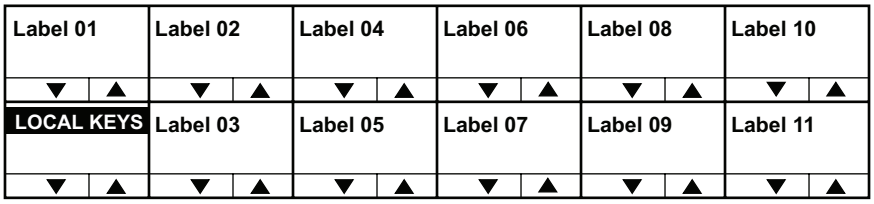

Figure 2-68: Local Key Assign Menu for Rack Mount Panels

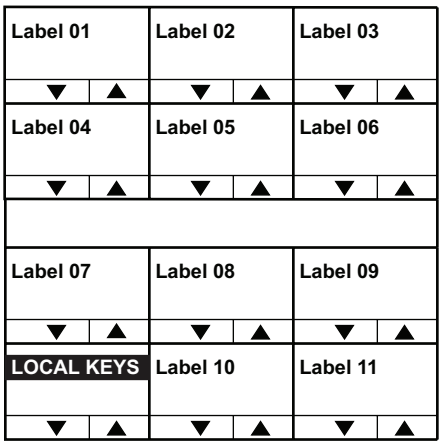

Figure 2-69: Local Key Assign Menu for Desktop Panels

Selecting a label on the 'LOCAL KEY' menu will display the 'KEY ASSIGN' menu showing labels that are attached to that key. Pressing a label lever key down will select and show what is configured on the talk key while pressing the key up will show what is configured on the listen key. Pressing a pushbutton key will display the talk or listen label configured for that key. Using the rotary encoder on a rotary panel will scroll through the label list. Up to four labels can be configured (stacked) on a key.

This menu can also be used to assign a label to a key locally (without using ECS) via the 'GET LABEL' function described below.

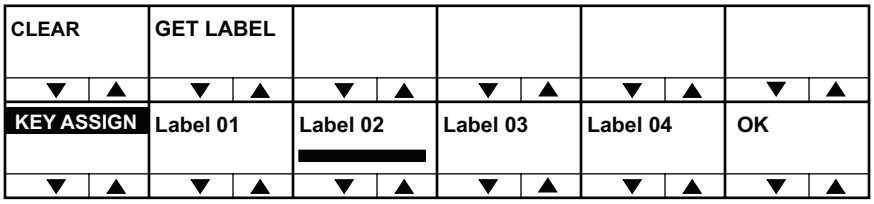

Figure 2-70: Key Assign Menu for Rack Mount Panels

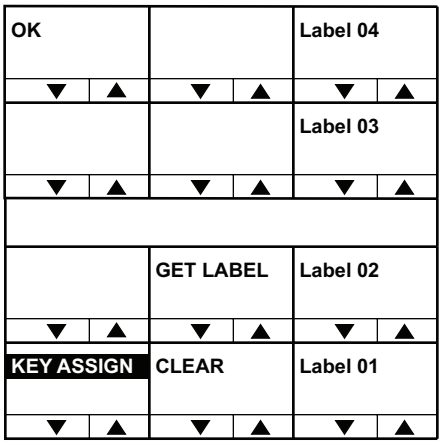

Figure 2-71: Key Assign Menu for Rack Mount Panels

The highlight bar will appear below the first label on the key.

Using the up/down volume buttons (lever key and pushbutton panels) on the Reply key ('KEY ASSIGN') will move the highlight bar to the next key to the right (up) or left (down). On rotary panels turning the Reply key rotary encoder clockwise will move the highlight bar to the right and turning it anticlockwise moves the base to the left.

Alternatively select the next label by pressing the label pushbutton or lever key or talk button (rotary). The highlight bar will then be shown on this label to indicate it is the currently selected label.

Pressing the 'CLEAR' key or talk button will remove the highlighted label and shuffle the labels to the left.

Pressing the 'GET LABEL' key or talk button will display the available Sort Groups the user can select a label from. Once chosen the label will be assigned to the selected key.

Pressing the 'OK' key or talk button will confirm the settings and return to the local panel menu.

Get Label Menu

Selecting the ‘GET LABEL’ item from the ‘KEY ASSIGN’ menu will display the ‘GET LABEL’ menu showing the available sort groups.

Figure 2-72: Get Label menu for Rack Mount Panels

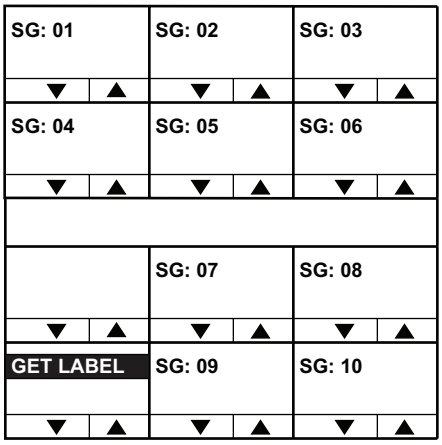

Figure 2-73: Get Label menu for Desktop Panels

The Up/Down volume buttons (lever key and pushbutton panels) or rotary encoder on the Reply key are used to scroll through the list of available Sort Groups (see the Eclipse Configuration Menu for information on setting up Sort Groups). To select a sort group from the list use the pushbutton or lever key or talk button corresponding to the display window. The sort group membership menu will be displayed for the selected sort group.

Pressing the Reply key or Reply key talk button (‘GET LABEL’) will return to the key assign menu.

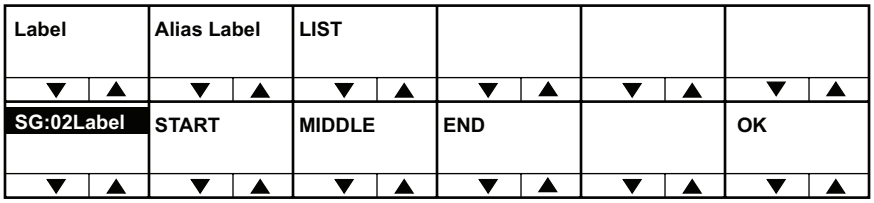

Figure 2-74: Sort Group Menu for Rack Mount Panels

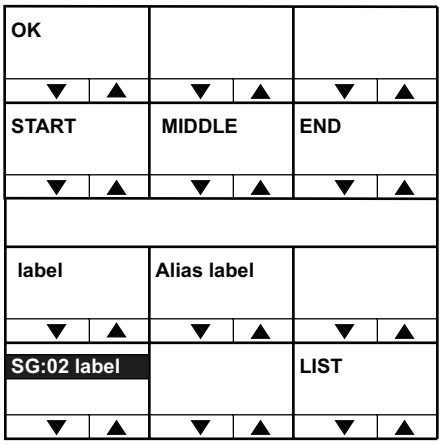

Figure 2-75: Sort Group Menu for Desktop Panels

The Sort Group menu items are:

- Label - label of currently displayed key in sort group.
- Alias Label - alias of label currently displayed.
- START - takes the user to the start of the current sort group.
- MIDDLE - takes the user to the middle of the current sort group.
- END - takes the user to the end of the current sort group.
- OK - accept the currently displayed item and place it in the KEY ASSIGN menu.

To use the sort group membership menu:

The reply key displays the label of the selected sort group. The top row shows the first member of the sort group.

Pressing and releasing the down button (lever key and pushbutton panels) or turning the rotary encoder anti-clockwise on the reply key will step down through the sort group (towards the end).

Pressing and releasing the Up button (lever key and pushbutton panels) or turning the rotary encoder clockwise on the reply key will step up through the sort group (towards the start).

Selecting the ‘START’ key or talk button will take the user to the start of the sort group.

Selecting the ‘MIDDLE’ key or talk button will take the user to the middle of the sort group.

Selecting the ‘END’ key or talk button will take the user to the end of the sort group.

Pressing the ‘OK’ key or talk button will accept the currently displayed item and place it in the KEY ASSIGN menu and take the user to the KEY ASSIGN menu.

Pressing the Reply key or Reply key talk button will return to the get label menu.

Remote Panel Menu

Selecting the ‘REMOTE PNL’ item in the system configuration menu will display the remote panel configuration menu. The remote panel facility allows keys on a remote panel to be programmed. The remote panel configuration menu allows the remote panel to be selected from a list of available panels via the sort groups.

Note: The ‘REMOTE PANEL’ function can only be used to program keys on other V-Series panels. It cannot be used to program keys on other panel types.

Figure 2-76: Remote Panel menu for Rack Mount Panels

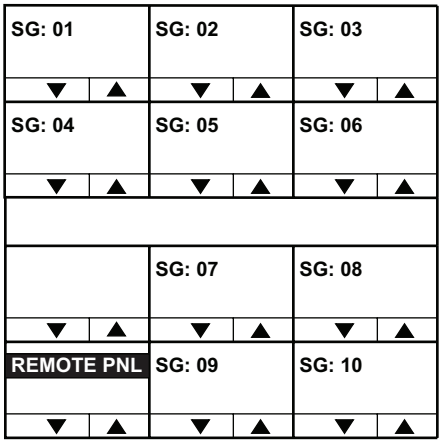

Figure 2-77: Remote Panels menu for Desktop Panels

The Up/Down buttons (lever key or pushbutton panels) or the rotary encoder on the reply key are used to scroll through the list of available sort groups (see the Eclipse Configuration Menu for information on setting up sort groups). To select a sort group from the list use the pushbutton or lever key or talk button corresponding to the display window. The sort group menu will be displayed for the selected sort group.

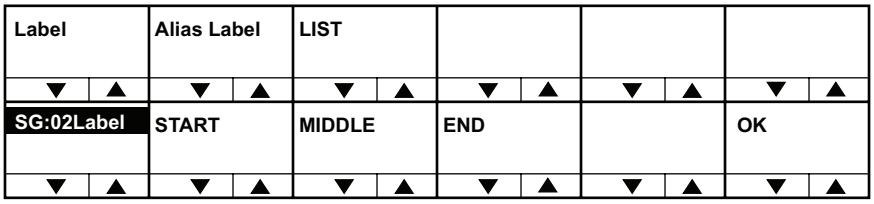

Figure 2-78: Sort Group Menu for Rack Mount Panels

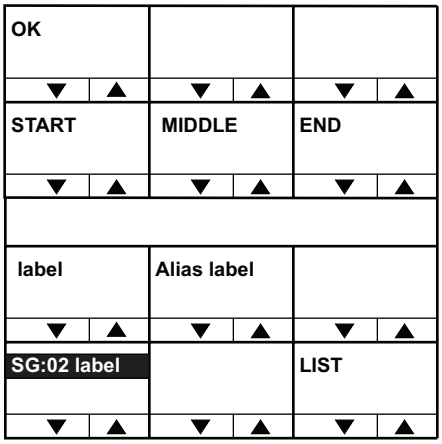

Figure 2-79: Sort Group Menu for Desktop Panels

The Sort Group menu items are:

- Label - label of currently displayed key in sort group.
- Alias Label - alias of label currently displayed.
- START - takes the user to the start of the current sort group.
- MIDDLE - takes the user to the middle of the current sort group.
- END - takes the user to the end of the current sort group.
- OK - accept the currently displayed item and place it in the KEY ASSIGN menu.

To use the sort group membership menu:

The REPLY key displays the label of the selected sort group. The top row shows the first member of the sort group.

Pressing and releasing the down button (lever key or pushbutton panels) or turning the rotary encoder anticlockwise on the reply key will step downwards through the sort group (towards the end).

Pressing and releasing the Up button (lever key and pushbutton panels) or turning the rotary encoder clockwise on the reply key will step up through the sort group (towards the start).

Selecting the ‘START’ key or talk button will take the user to the start of the sort group.

Selecting the ‘MIDDLE’ key or talk button will take the user to the middle of the sort group.

Selecting the ‘END’ key or talk button will take the user to the end of the sort group.

Pressing the ‘OK’ key or talk button will accept the currently displayed item and take the operator to the remote panel menu where the remote keys can be selected and the attributes of the selected remote keys set.

Pressing the Reply key or Reply key talk button (‘REMOTE PNL’) will return to the remote panel menu.

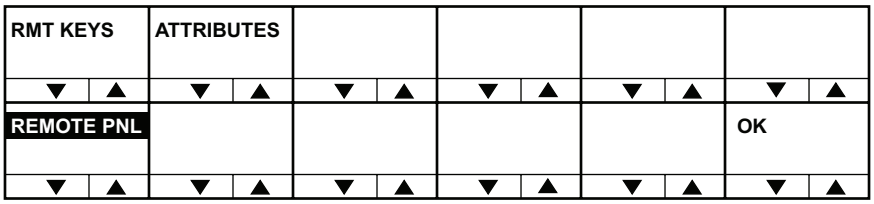

Figure 2-80: Remote Panel Menu for Rack Mount Panels

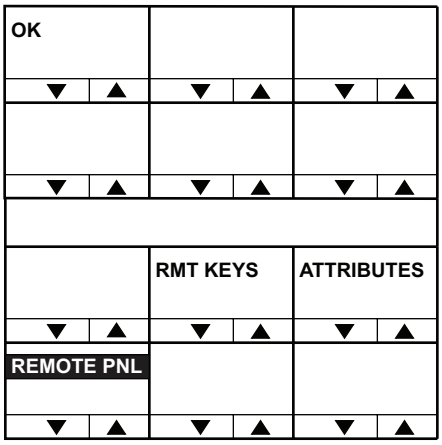

Figure 2-81: Remote Panel Menu for Desktop Panels

- RMT KEYS - displays the menu to assign keys on the remote panel.
- ATTRIBUTES - displays the attributes menu to allow the properties of the remote panel keys to be set.

Pressing the Reply key or reply key talk button (‘REMOTE PNL’) will return to the sort group menu.

Remote Panel Attributes Menu

Selecting the ‘ATTRIBUTES’ item from the remote panel menu will display the attributes menu.

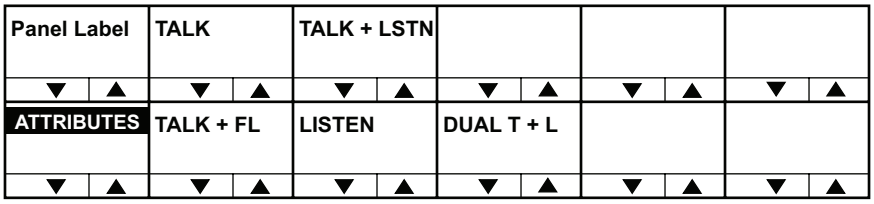

Figure 2-82: Panel Attributes Menu for Rack Mount Panels

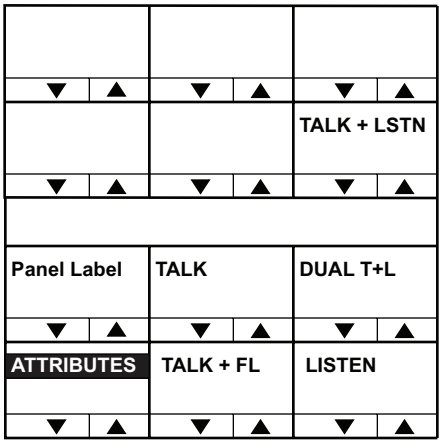

Figure 2-83: Panel Attributes Menu for Desktop Panels

This menu allows the user to set the attributes of a panel key to TALK, LISTEN, TALK + LSTN, TALK + FL or DUAL T+L.

- TALK sets a talk from this panel to a destination with no automatic listen to the destination.
- LISTEN sets a key to listen to the source without talking to the destination at the same time. Use as a monitor key. Press the volume level up/down buttons under the display (lever key or pushbutton panels) or turn the rotary encoder to increase or decrease the listen level.
- TALK + LSTN sets a talk key with listen. Press the volume level up/down buttons under the display (lever key or pushbutton panels) or turn the rotary encoder to increase or decrease the listen level.
- TALK+FL sets a talk key with permanently made listen. Press the volume level up/down buttons under the display (lever key or pushbutton panels) or turn the rotary encoder to increase or decrease the listen level.
- DUAL T+L sets a Dual talk and listen key (use only on pushbutton panel types). This makes the pushbutton activate a Talk and Listen on a press and hold or latch a Listen with a short press and release (less than 200ms) on the same pushbutton.

Pressing the Reply key or Reply key talk button (‘ATTRIBUTES’) will return to the remote panel menu.

Forced Listen Configuration Menu

The ‘FORCED LISTEN’ configuration menu allows the panel user to select a key and set the source or destination of that key to forced listen.

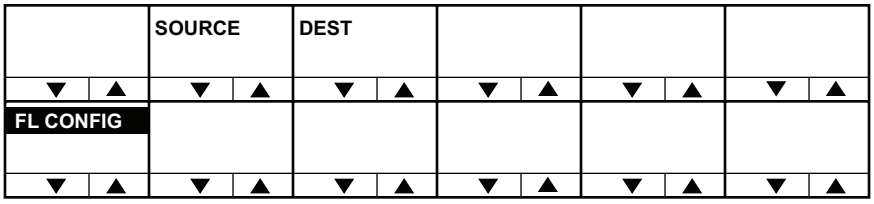

Figure 2-84: Forced Listen Configuration Menu for Rack Mount Panels

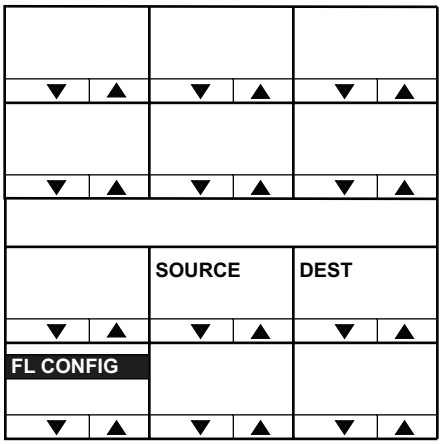

Figure 2-85: Forced Listen Configuration Menu for Desktop Panels

Pressing the ‘SOURCE’ button will select the menu for forced listen sources. Pressing the Reply key or Reply key talk button (‘FL CONFIG’) will return to the system configuration menu.

Forced Listen Source Configuration

Configuring a forced listen source creates a forced listen from the selected source to the selected key on the panel being configured. This results in the configured panel always receiving the audio from the forced listen source on that key.

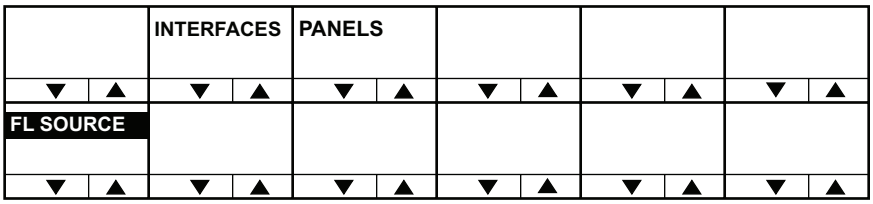

Figure 2-86: Forced Listen Sources Menu for Rack Mount Panels

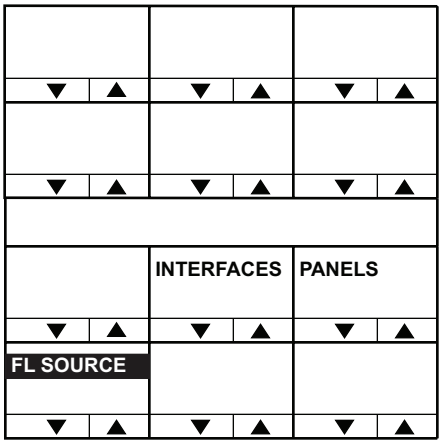

Figure 2-87: Forced Listen Sources Menu for Desktop Panels

Selecting 'INTERFACES' will display a list of interfaces that may be forced listen sources. Press the Reply key or Reply key talk button ('FL SOURCE') to return to the forced listen configuration menu.

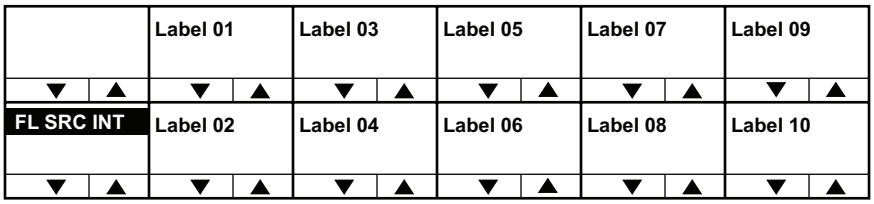

Figure 2-88: Forced Listen Source Interfaces for Rack Mount Panels

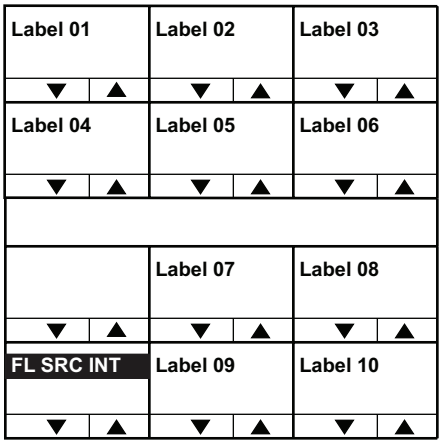

Figure 2-89: Forced Listen Source Interfaces for Desktop Panels

Pressing the volume up/down buttons (lever key and pushbutton panels) or turning the rotary encoder on the Reply key (‘FL SRC INT’) will scroll through the list of possible interfaces. Pressing a key or talk button for a source interface will select the label and display the forced listen destination menu. Pressing the Reply key or Reply key talk button (‘FL SRC INT’) will return to the forced listen source menu.

Selecting ‘PANELS’ will display a list of panels that may be forced listen sources. Press the Reply key or Reply key talk button (‘FL SRC PNL’) to return to the forced listen source menu.

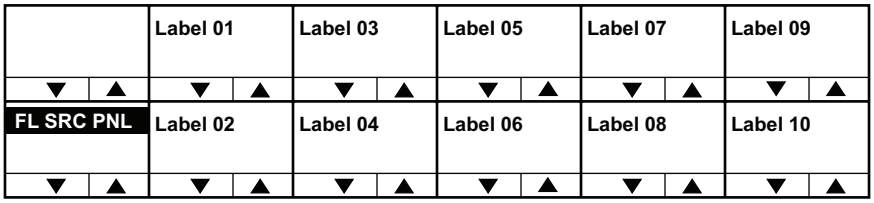

Figure 2-90: Forced Listen Source Panels for Rack Mount Panels

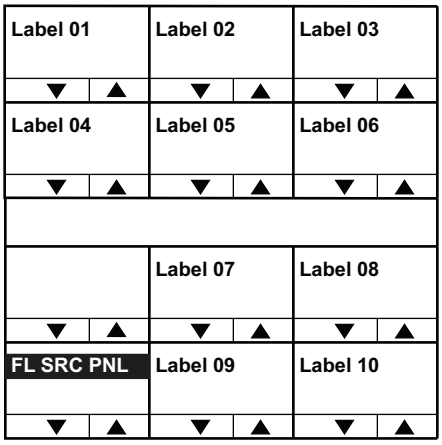

Figure 2-91: Forced Listen Source Panels for Desktop Panels

Pressing the volume up/down buttons (lever key and pushbutton panels) or turning the rotary encoder on the Reply Key (labelled FL SRC PNL) will scroll through the list of possible panels. Pressing a key or talk button for a source panel will select the label and display the forced listen destination menu.

Forced Listen Destination Configuration

Pressing the 'DEST' button will select the menu for forced listen destinations.

Configuring a forced listen destination creates a forced listen from the panel being configured to the selected destination. This results in the configured panel always sending audio to the forced listen destination.

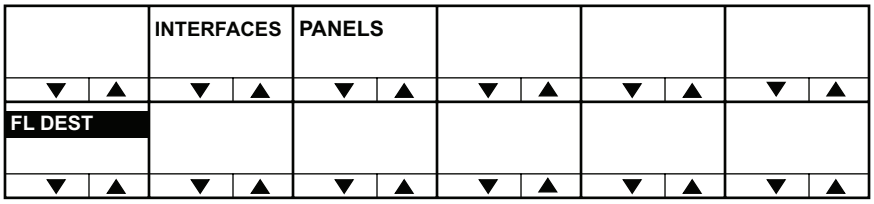

Figure 2-92: Forced Listen Destinations Menu for Rack Mount Panels

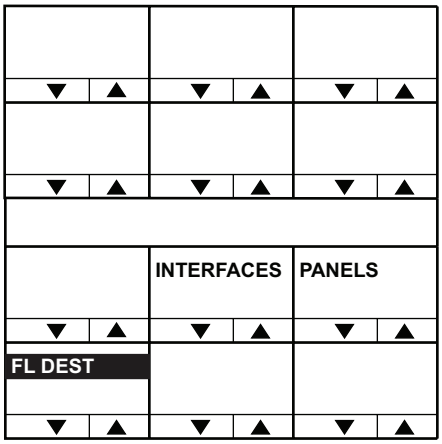

Figure 2-93: Forced Listen Destinations Menu for Desktop Panels

Selecting 'INTERFACES' will display a list of interfaces that may be forced listen destinations. Pressing the Reply key or Reply key talk button ('FL DEST') will return to the forced listen configuration menu.

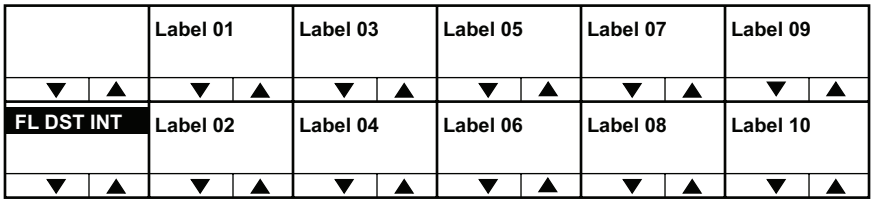

Figure 2-94: Forced Listen Destination Interfaces for Rack Mount Panels

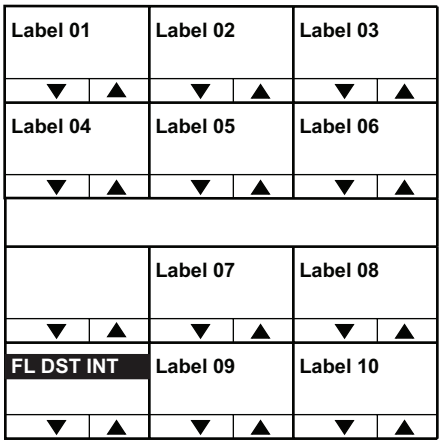

Figure 2-95: Forced Listen Destination Interfaces for Desktop Panels

Pressing the volume up/down buttons (lever key and pushbutton panels) or turning the rotary encoder on the Reply key ('FL DST INT') will scroll through the list of possible interfaces. Pressing a key or talk button for a destination interface will select the label and display the forced listen source menu.

Selecting 'PANELS' will display a list of panels that may be forced listen destinations.

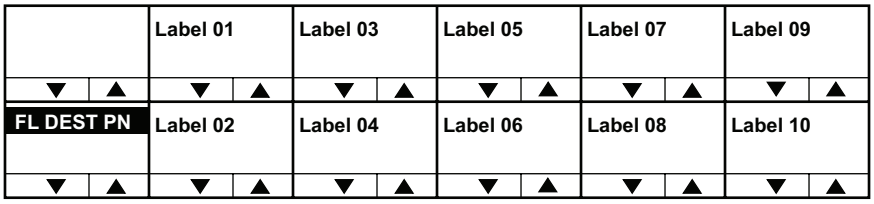

Figure 2-96: Forced Listen Source Panels for Rack Mount Panels

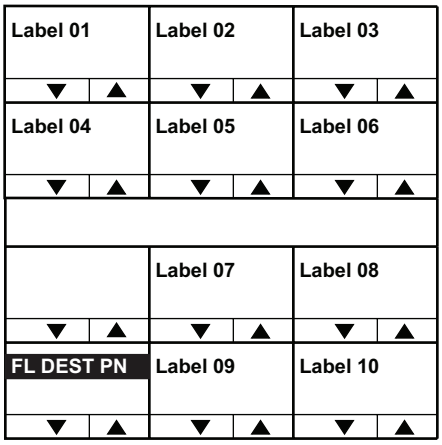

Figure 2-97: Forced Listen Source Panels for Desktop Panels

Pressing the volume up/down buttons (lever key and pushbutton panels) or turning the rotary encoder on the Reply key will scroll

through the list of possible panels. Pressing a key or talk button for a panel will select the panel and display the forced listen source menu.

Pressing the Reply key or Reply key talk button ('FL DEST PN') will return to the forced listen configuration menu.

Input Levels

The 'INPUT LVLS' menu displays the sort groups available to the panel. Selecting one of the sort groups displays the membership menu for that sort group.

Figure 2-98: Input Levels Menu for Rack Mount Panels

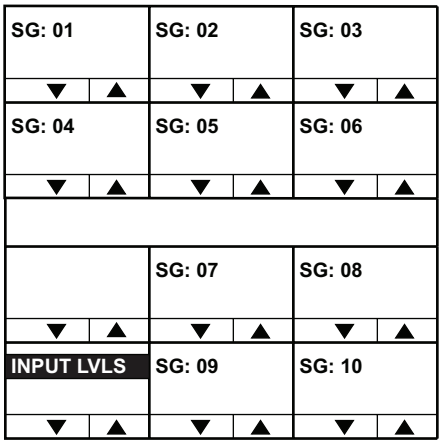

Figure 2-99: Input Levels Menu for Desktop Panels

Pressing the Up/Down volume buttons (lever key and pushbutton panels) or turning the rotary encoder on the Reply key will scroll through the list of sort groups.

When a sort group is selected by pressing the corresponding lever key or pushbutton or talk button the sort group membership menu is displayed. Pressing the Reply key or Reply key talk button ('INPUT LVLS') will return to the system configuration menu.

Input Levels Configuration

The input levels configuration menu allows an individual label to be selected from a sort group and the input levels set.

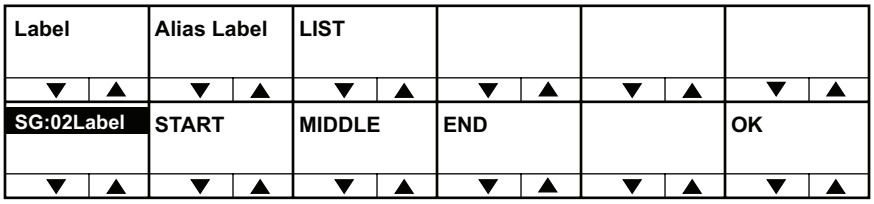

Figure 2-100: Sort Group Members Menu for Rack Mount Panels

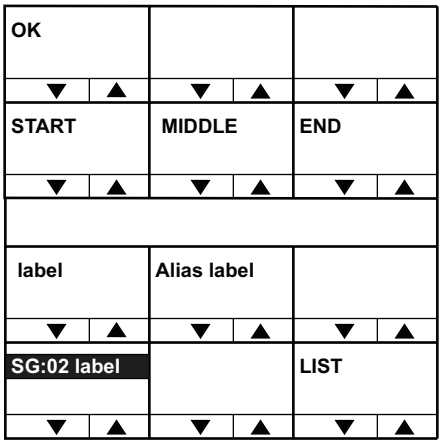

Figure 2-101: Sort Group Members Menu for Desktop Panels

To use the sort group membership menu:

The Reply key displays the label of the selected sort group. The top row shows the first member of the sort group.

Pressing and releasing the down button (lever key and pushbutton panels) or turning the rotary encoder anticlockwise on the Reply key will step down through the sort group towards the end of the sort group.

Pressing and releasing the Up button (lever key and pushbutton panels) or turning the rotary encoder clockwise on the reply key will step up through the sort group towards the start of the sort group.

Selecting the ‘START’ key or talk button will take the user to the start of the sort group.

Selecting the ‘MIDDLE’ key or talk button will take the user to the middle of the sort group.

Selecting the ‘END’ key or talk button will take the user to the end of the sort group.

Pressing the ‘OK’ key or talk button will take the user to the INPUT LEVEL menu and uses the selected label if it is a port label.

Pressing the Reply key or Reply key talk button will return to the input levels menu.

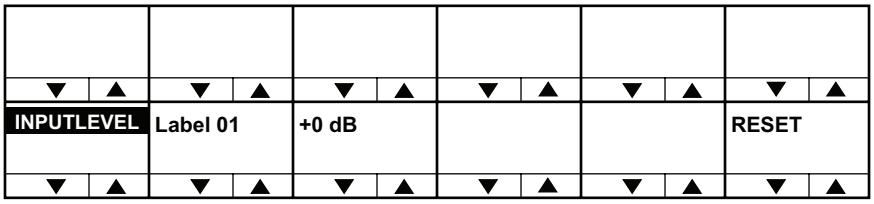

Figure 2-102: Input Level Set Menu for Rack Mount Panels

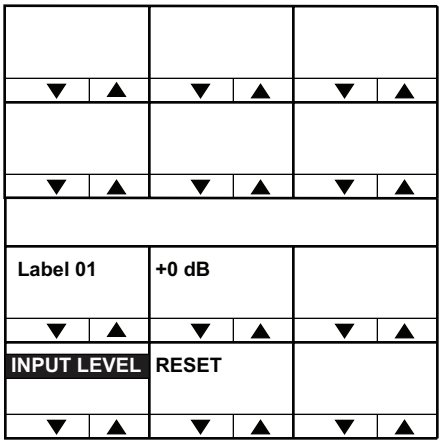

Figure 2-103: Input Level Set Menu for Desktop Panels

The +0 dB represents the input level for the audio source of the label and may be adjusted using the up and down buttons below the level display or the rotary encoder.

Selecting the 'RESET' key or talk button will reset the input levels back to the default of 0dB. Pressing the Reply key or Reply key talk button ('INPUT LEVEL') will return to the sort group menu.

When the input level for an audio source is set in this way it will be set for the entire matrix and not just for an individual panel.

Note: Input and output settings can only be made for the local matrix. Gains for other matrices can be achieved within the ECS management software.

Output Levels

Output levels are for keys are set from the 'OUTPUT LVL' menu.

Figure 2-104: Output Level Configuration Menu for Rack Mount Panels

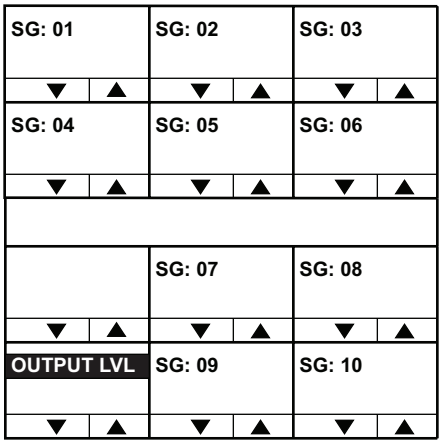

Figure 2-105: Output Level Configuration Menu for Desktop Panels

Pressing the up/down volume buttons (lever key and pushbutton panels) or turning the rotary encoder on the Reply key will scroll through the list of sort groups. When a sort group is selected from the list by pressing the corresponding lever key or pushbutton or talk button on the output levels menu the sort group membership menu is displayed. Pressing the Reply key or Reply key talk button ('OUTPUT LVL') will return to the system configuration menu.

Output Levels Configuration

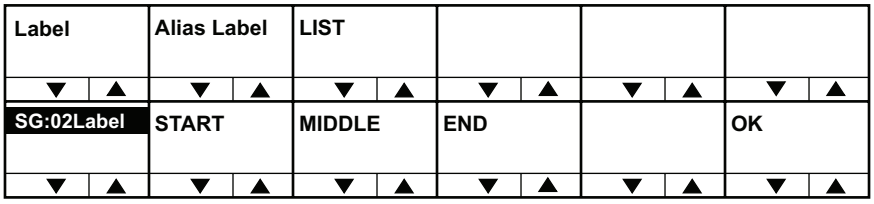

Figure 2-106: Sort Group Output Levels Menu for Rack Mount Panels

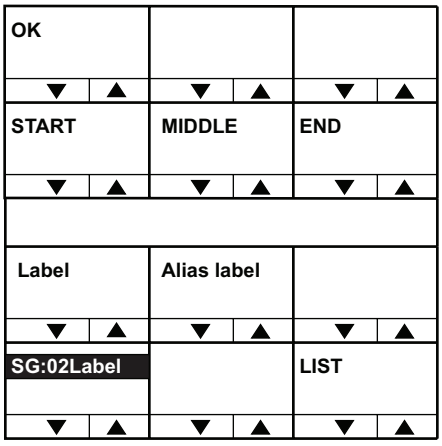

Figure 2-107: Sort Group Output Levels Menu for Desktop Panels

To use the Sort Group menu:

The Reply key displays the label of the selected sort group. The top row shows the first member of the sort group.

Pressing and releasing the down button (lever key and pushbutton panels) or turning the rotary encoder anticlockwise on the reply key will step downwards through the sort group (towards the end).

Pressing and releasing the Up button (lever key and pushbutton panels) or turning the rotary encoder clockwise on the reply key will step up through the sort group (towards the start).

Selecting the ‘START’ key or talk button will take the user to the start of the sort group.

Selecting the ‘MIDDLE’ key or talk button will take the user to the middle of the sort group.

Selecting the ‘END’ key or talk button will take the user to the end of the sort group.

Pressing the ‘OK’ key or talk button will take the user to the OUTPUT LEVEL menu and uses the selected label if it is a port label.

Pressing the Reply key or Reply key talk button will return to the output levels menu.

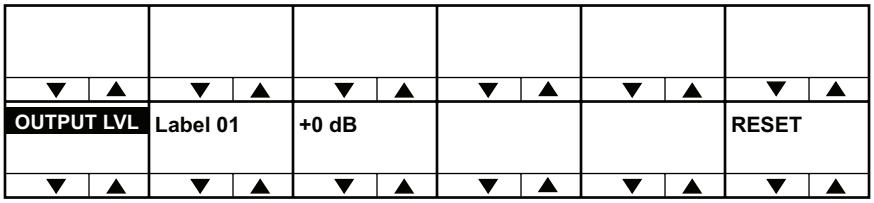

Figure 2-108: Output Level Set Menu for Rack Mount Panels

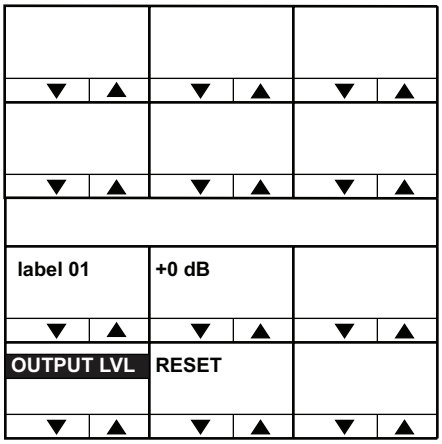

Figure 2-109: Output Level Set Menu for Desktop Panels

The ‘+0 dB’ represents the output level for the audio source of the label and may be adjusted using the up and down buttons (lever key and pushbutton panels) or the rotary encoder below the level display.

Selecting the ‘RESET’ key or talk button will reset the input levels back to the default of 0dB.

When the input level for an audio source is set in this way it will be set for the entire matrix and not just for an individual panel.

Note: Input and output settings can only be made for the local matrix. Gains for other matrices can be achieved within the ECS management software.

DIAGNOSTIC MENU

The ‘DIAGNOSTIC’ menu is accessed from the top level menu.

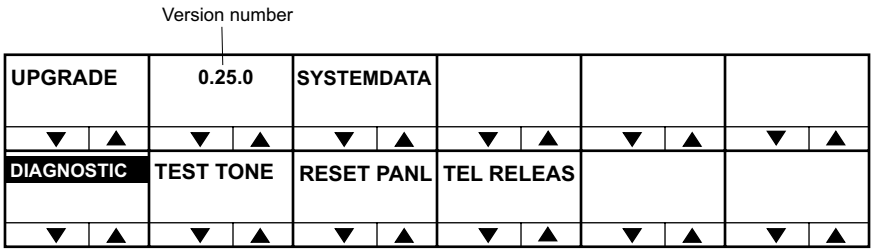

Figure 2-110: Diagnostic Menu for Rack Mount Panels

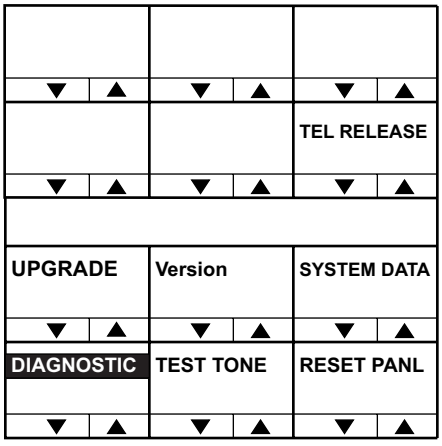

Figure 2-111: Diagnostic Menu for Desktop Panels

The diagnostic menu items are:

- SYSTEMDATA - selecting this item will display the system data menu.
- TEST TONE - selecting this will turn the LED indicator red and send a 1KHz test tone to the matrix output. Selecting Test Tone again will disable the tone and the red LED will be

extinguished. Exiting the diagnostic menu will also turn off the Test Tone.

- RESET PANL - selecting ‘RESET PANL’ will reset the panel to factory defaults. It will also delete all locally assigned keys and reset all crosspoint levels to the factory default (0dB). Panel brightness will be reset to the brightness level configured for that panel in ECS.
- TEL RELEAS - selecting ‘TEL RELEAS’ returns the user to the Direct Access Key (DAK) page and if a telephone key is then pressed the line will be released.
  Note that the panel must also have Remote Line Release enabled in ECS Advanced Settings for this to take effect.
  This function can also be performed using the up/down volume control buttons or rotary control (see “Up/Down Volume Buttons” on page 1-13).
- UPGRADE - this is only displayed if an update is available from the matrix. Selecting this option will display the update option menu.

Pressing the Reply key or Reply key talk button (‘DIAGNOSTIC’) will return to the main menu.

The version number displayed in the diagnostic menu is that of the panel application only. In order to obtain the complete version numbers of all panel firmware and the IP address of a V-Series panel the panel must be taken off line. The panel will then display additional information for panel firmware and the IP address.

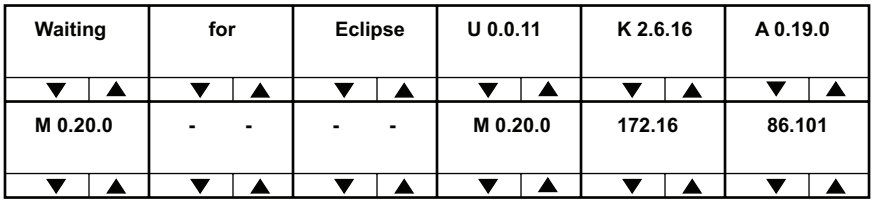

Figure 2-112: Offline Panel Display for Rack Mount Panels

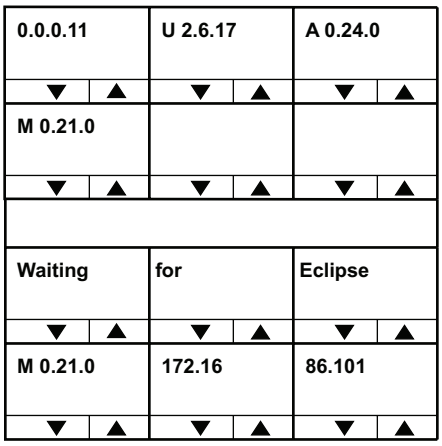

Figure 2-113: Offline Panel Display for Desktop Panels

The information given (from the example above) is:

- M 0.20.0 - module application code version.
- U 0.0.11 - panel boot loader version.
- K 2.6.16 - panel kernel version.
- A 0.19.0 - panel application version.
- 172.16.86.101 - panel IP address (if set, otherwise blank).

This applies to main panels only; expansion panels do not display this information.

Alternatively the information can be obtained via ECS (see the ECS manual for details).

System Data

Selecting the ‘SYSTEMDATA’ item displays the system information on the panel.

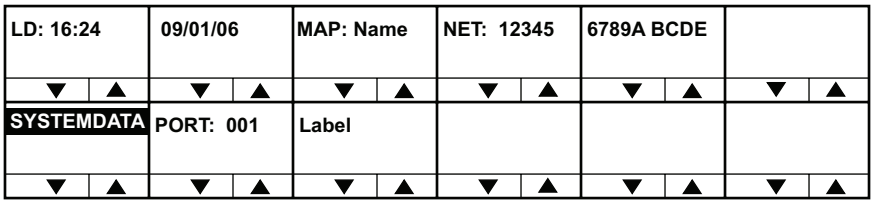

Figure 2-114: System Data Menu for Rack Mount Panels

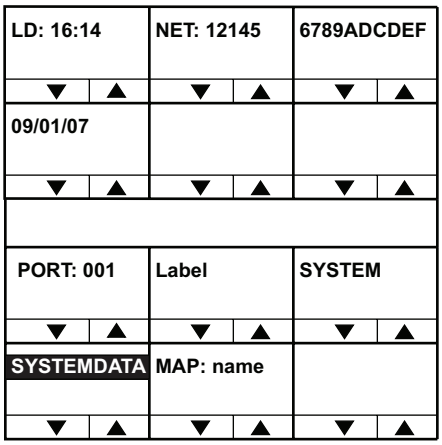

Figure 2-115: System Data Menu for Desktop Panels

The system data menu displays the following information:

- LD - Time and date of last map download.
- MAP - Name of map.
- NET - Systems configured and connected to the panel
- PORT - Port number of the panel
- Label - Panel label

Pressing the Reply key or Reply key talk button (‘SYSTEMDATA’) returns to the diagnostic menu.

Upgrade Menu

The upgrade menu is displayed if a panel upgrade is available from the matrix and the ‘Panel Prompt’ option was selected in ECS. The panel upgrade menu offers the panel user the option to accept or refuse the upgrade. The menu can be entered via the diagnostic menu or it will be displayed when a panel goes from being offline to online after an upgrade has been downloaded to the matrix. The prompt is also indicated by flashing keys.

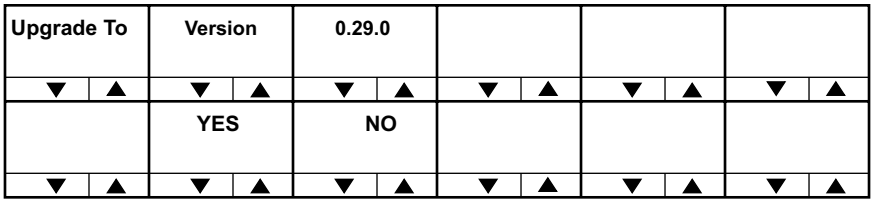

Figure 2-116: Upgrade Menu for Rack Mount Panels

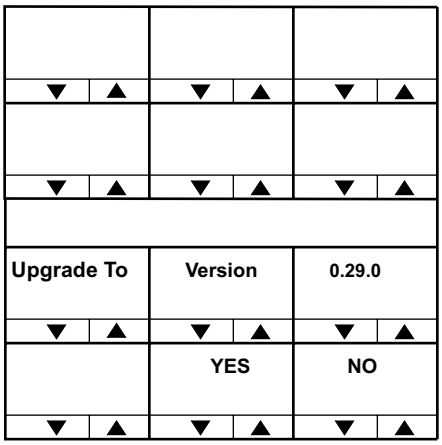

Figure 2-117: Upgrade Menu for Desktop Panels

If the panel user selects ‘YES’ the upgrade confirmation menu will be displayed.

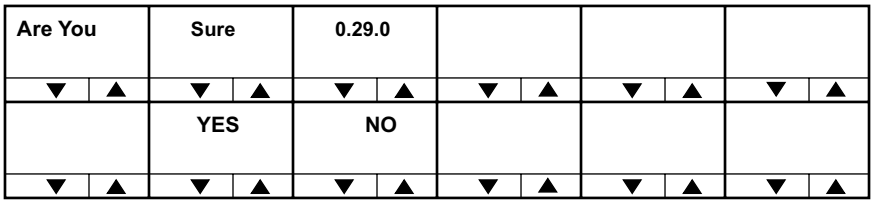

Figure 2-118: Upgrade Confirmation Menu for Rack Mount Panels

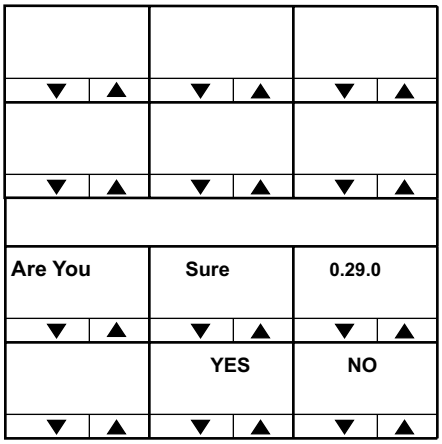

Figure 2-119: Upgrade Conformation for Desktop Panels

If ‘YES’ is selected the panel will be upgraded with the new download. If ‘NO’ is selected the prompt will not be displayed again until the upgrade is downloaded to the matrix again.

During the upgrade process the message “UPDATE IN PROGRESS” will be displayed with an indication of the upgrade progress,

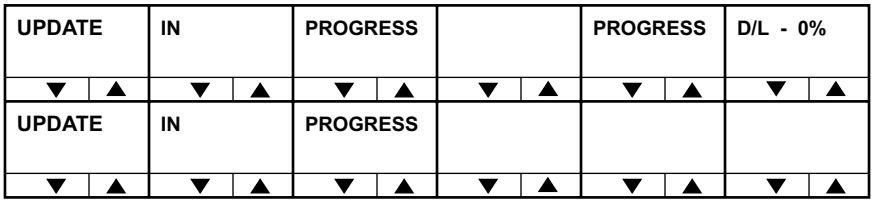

Figure 2-120: Upgrade Progress Menu for Rack Mount Panels

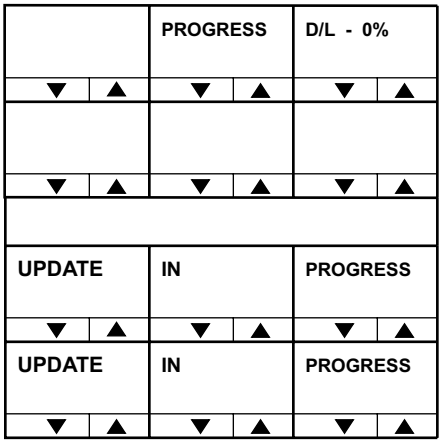

Figure 2-121: Upgrade Progress for Desktop Panels

When the upgrade is complete the panel will display a message to show that the upgrade is complete and that the panel will reboot. The panel will then restart and load the new application.

CALL MENU

The call menu will display a list of sort groups from which a label can be selected and placed on the answerback stack to create a temporary key.

Figure 2-122: Call Menu for Rack Mount Panels

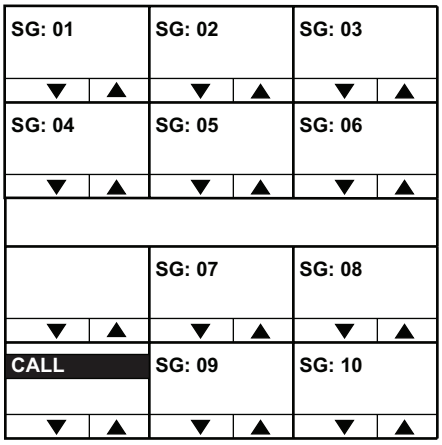

Figure 2-123: Call Menu for Desktop Panels

Use the up/down buttons (lever key and pushbutton panels) or rotary encoder on the Reply key to scroll through the available sort groups and select the name of the sort group containing the required label using the lever key or pushbutton or talk button. This will display the sort group label selection menu. Press the Reply key or Reply key talk button ('CALL') to return to the main menu.

Call Menu Sort Groups Menu

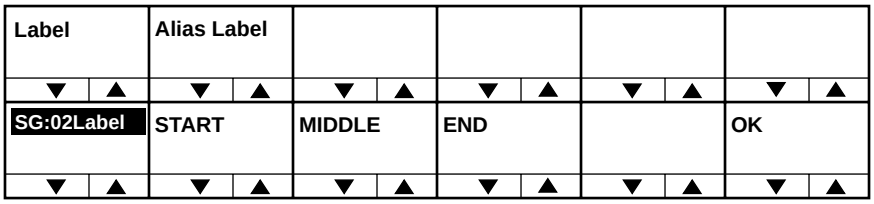

Figure 2-124: Call Sort Menu for Rack Mount Panels

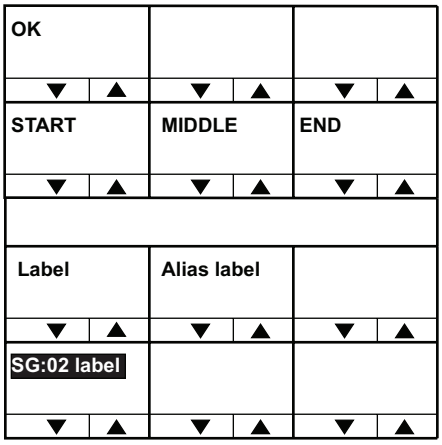

Figure 2-125: Call Sort Menu for Desktop Panels

The selected sort group name is displayed on the reply key and the first member of the sort group is displayed on the top row of the display.

Selecting ‘START’ will take the user to the start of the sort group, selecting ‘MIDDLE’ will take the user to the middle of the sort group and selecting ‘END’ will take the user to the end of the sort group.

Selecting ‘OK’ will select the currently displayed member of the sort group and place it at the top of the answerback stack and return the user to the main CALL menu.

To call the selected label the user should press the Reply key to access the label from the answerback stack and call. The label is not removed from the answerback stack.

Press the Reply key or Reply key talk button to return to the Call menu.

DIAL MENU

The dial menu is provided on the 1RU panels to allow users to dial telephone numbers; the 2RU and desktop panels also have a dial pad for dialling telephone numbers. The display dialler is also available on 2RU panels via the ‘DIAL’ menu.

To use the ‘DIAL’ facility a key to a TEL-14 interface must be set up on the panel before use. To dial out first select the TEL-14 interface and then either use the keypad or the dial menu to dial the telephone number.

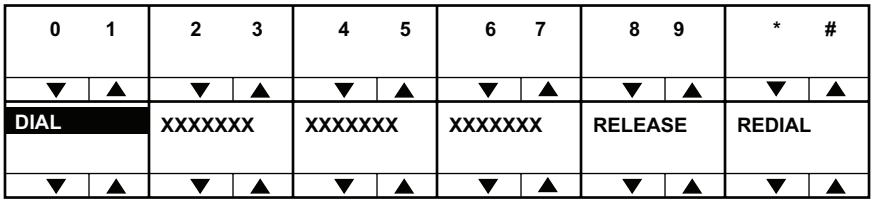

Figure 2-126: Dial Menu for Rack Mount Panels

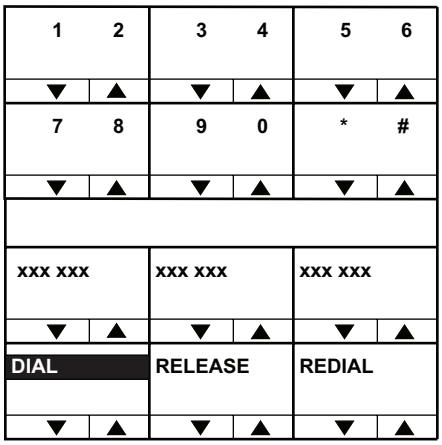

Figure 2-127: Dial Menu for Desktop Panels

On lever key and pushbutton panels pressing the Up or Down buttons under the numbers will dial the numbers as they are selected and enter them into the dial display on the lower line shown as ‘XXXX’. On rotary panels pressing the rotary encoder will select the left digit while pressing the talk button will select the right digit (see Figure 2-30 and Figure 2-31). Telephone numbers of up to 30 digits may be displayed.

If the initial number dial is unsuccessful selecting the ‘RELEASE’ key will release the telephone line.

Selecting ‘REDIAL’ key will dial the number saved on the lower line of the display provided the operator does not exit DIAL mode. If the operator exits DIAL mode the redial number is cleared.

The ‘RELEASE’ and ‘REDIAL’ keys perform the same function on 2RU panels whether the keypad or panel keys are used to dial the number.

Press the Reply key or Reply key talk button (‘DIAL’) to return to the main menu.

Using the keypad on 2RU rack mount panels and desktop panels to access the DIAL menu by pressing ‘1’ will enter a different dial menu.

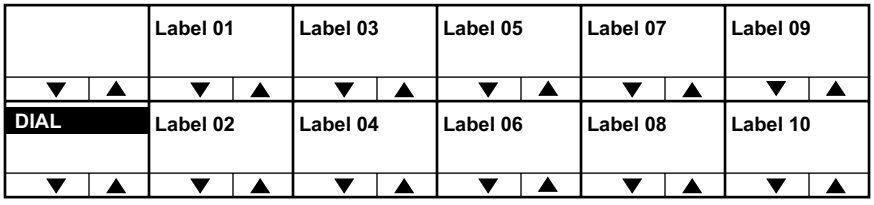

Figure 2-128: Rackmount Panel Dial Menu from Keypad Shortcut

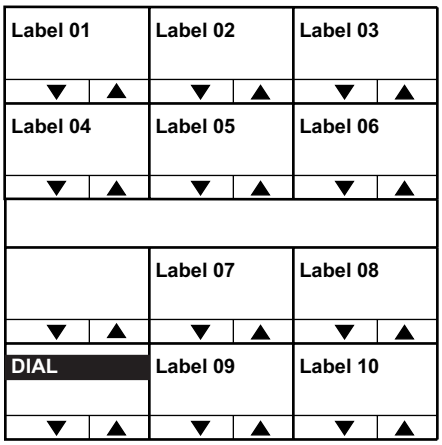

Figure 2-129: Desktop Panel Dial menu from Keypad Shortcut

The labels will still operate in the normal way and dialling out is done using the keypad. The non-keypad dialling menus shown in Figure 2-126 and Figure 2-127 can still be accessed via the menu button.

Note: When dialling out through a TEL-14 interface via the dial menu no outgoing audio will be transmitted until the panel operator exits the dial menu. Incoming audio from the TEL-14 interface will be heard.

LOCAL EXCLUSIVE MENU

The Local Exclusive facility allows the operator to select a single key for talk and temporarily deactivate all other latched keys on the panel. The required key is non-latching and so must be kept pressed whilst local exclusive is in operation. Releasing the key will return the deactivated latched keys to their previous state. The menu can also be entered by pressing '2' on the keypad.

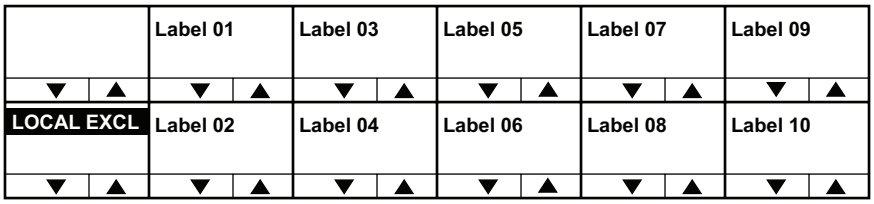

Figure 2-130: Local Exclusive for Rack Mount Panels

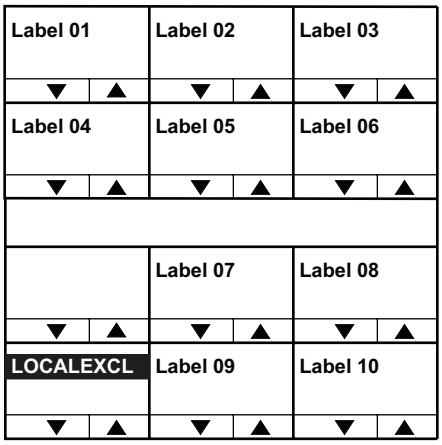

Figure 2-131: Local Exclusive for Desktop Panels

If local exclusive is selected but no key is pressed in five seconds local exclusive mode will be cancelled and the panel will return to its previous state.

The local exclusive functionality is only available when the panel is connected to a matrix and online.

LOCAL PAGE MENU

The local page override menu allows the panel operator to talk to one or more destinations regardless of the destination panel settings for the panel loudspeaker. For example if the loudspeaker volume has been turned down to minimum this setting will be overridden. This function can also be accessed by pressing ‘3’ on the panel keypad.

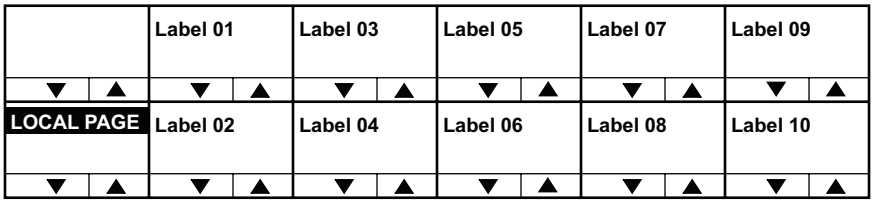

Figure 2-132: Local Page Override for Rack Mount Panels

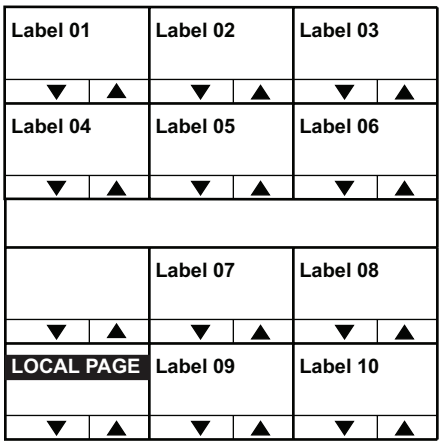

Figure 2-133: Local Page Override for Desktop Panels

Select any key with a label and all the destination panels associated with that key will have their local loudspeaker settings overridden by the source panel. When the talk key is released the override function will exit and the loudspeaker settings at the destination panels will revert to their normal settings.

If no key is pressed for five seconds after entering local page override mode the panel will exit local page override automatically.

For this function to operate ‘Page Override’ must be set to ‘True’ and the ‘Page Volume’ level set for the destination panel in ECS under ‘Advanced Settings’.

ASSIGNMENT PANEL MENU

Using the assignment panel (AP) menu sources and destinations can be assigned to and deassigned from IFBs, Party Lines and Fixed Groups. In addition to the main menu Assignment Panel mode can also be entered via a COM key on rotary panels. The COM key will then function in exactly the same way as the Reply key.

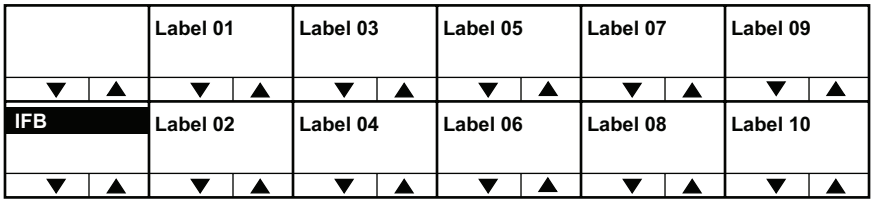

Figure 2-134: Assignment Menu for Rack Mount Panels

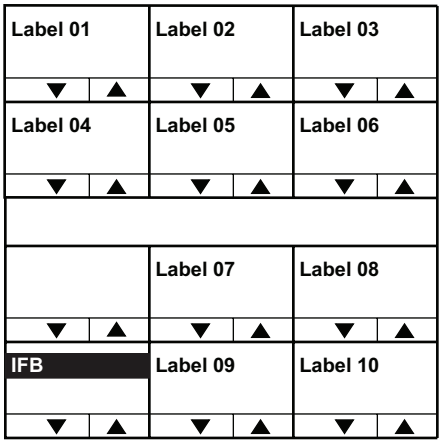

Figure 2-135: Assignment Menu for Desktop Panels

The Reply key displays the assignment types (IFB, PL, FG) that have been enabled in ECS. Pressing the Reply key or Reply key talk button will cycle through the available assignment types.

IFB, Party Line and Fixed Group Assignments

The “ASSNMT PNL” key allows local assignments to be made for IFBs, party lines and fixed groups. To access the assignment mode:

- Press the “ASSNMT PNL” key or talk button. The “REPLY” key status LED or pushbutton to talk button will illuminate red and “IFB” will be displayed on the “REPLY” key.
- To access party line mode press the “REPLY” key or talk button. “PL” will be displayed on the “REPLY” key.
- To access fixed group mode press the “REPLY” key or talk button again. “FG” will be displayed on the “REPLY” key.
- Pressing the “REPLY” key or Reply key talk button again will exit assignment mode.

Setting Up IFB Sources and Destinations

Only Global IFBs with Talk are valid as IFB destinations and only sources with listen are valid to be assigned to an IFB. Normally only one source per destination will be configured. If multiple sources for an IFB destination are required then the option to assign multiple sources to an IFB from an AP panel should be checked in the “ISO and IFB” tab under “System Preferences”.

1. Press the “ASSMNT PNL” key or talk button so that the “REPLY” key status LED (lever key) or pushbutton or talk button illuminates red and “IFB” is displayed on the “REPLY” key.
2. All valid IFB destination status LEDs or pushbuttons or talk buttons will flash red.
   At this point the output level from the matrix to the IFB destination can be set on rotary panels as described below.

3. Press the front-panel key or talk button for the required IFB destination. Its status LED or pushbutton or talk button will turn solid red, while all valid sources' status LEDs or pushbuttons or rotary encoders will blink green.
   At this point the output level from the matrix to the IFB destination can be set on rotary panels as described below.
   Press a source's key or talk button to assign it to the destination. Its status LED or talk button will turn solid green. Pressing the key or talk button again deactivates the assignment.
4. Repeat steps 3 and 4 until all sources are assigned to the IFB destination.
5. Press the "REPLY" key or Reply key talk button to cycle through the remaining assignments to exit assignment panel mode.

Rotary Panel IFB Setup

Rotary panels provide facilities to set audio levels when assigning IFB sources and destinations using the rotary encoders.

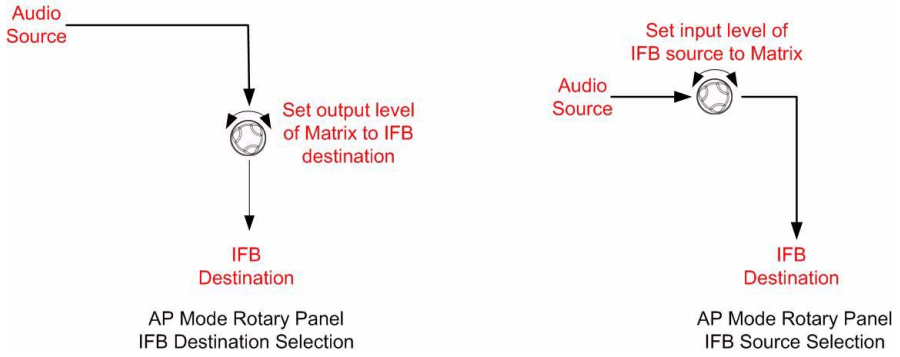
Audio Source
Set output level of Matrix to IFB destination
IFB Destination
AP Mode Rotary Panel IFB Destination Selection
Set input level of IFB source to Matrix
Audio Source
IFB Destination
AP Mode Rotary Panel IFB Source Selection

Figure 2-136: Rotary Panel IFB Level Setup

This is achieved by turning the rotary encoder associated with the IFB destination key selected to change the audio level. When the rotary encoder is turned the display changes to show the audio level and the type of level being adjusted. When the talk button is pressed the audio level for output to the IFB destination is set.

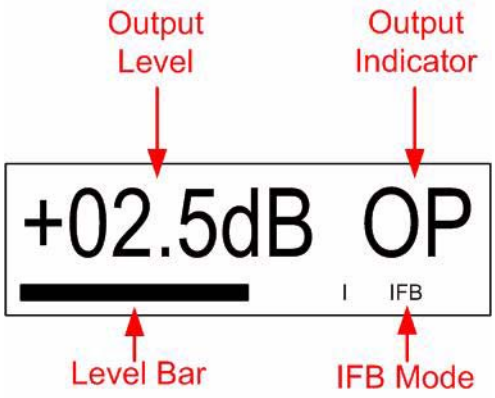

Figure 2-137: Setting IFB Destination Level

After the IFB destination has been selected the IFB sources are assigned and the audio levels for each source can be set using the rotary encoders.

This is achieved by turning the rotary encoder associated with the IFB source key selected to change the audio level. When the rotary encoder is turned the display changes to show the audio level. When the talk button or rotary encoder is pressed the audio level for input to the matrix is set.

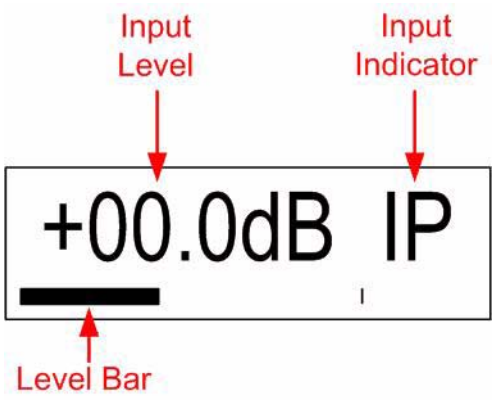

Figure 2-138: Setting IFB Source Level

Setting Up Party Line members

Only Talk and Listen keys are valid as members of a Party Line.

1. Press the “ASSMNT PNL” key so that the “REPLY” key status LED (lever key) or pushbutton or talk button illuminates red and “IFB” is displayed on the “REPLY” key.
2. Press the “REPLY” key or pushbutton or talk button so that “PL” is displayed on it.
3. All available party line status LEDs or pushbuttons or talk buttons flash red.
4. Press the key or pushbutton or talk button for the desired party line.
5. The key’s status LED or talk button becomes solid red and all available members’ status LEDs or pushbuttons flash green. In the case of rotary panels if a talk label is available the talk button will flash green and if a listen label is available the rotary encoder will flash green.
6. Press a key with the associated flashing green status LED or the pushbutton or talk button or rotary encoder of an available member to add it to the party line.
7. The status LED or pushbutton or talk button or rotary encoder becomes solid green to indicate the member has been added to the party line.
8. To remove a member from the party line, press that member’s key.
9. The solid green status LED or pushbutton or talk button or rotary encoder associated with that key blinks green to indicate it is now available.

10. Repeat steps 6 and 7 until the party line contains all desired members.
11. Press the “REPLY” key or Reply key talk button to cycle through the remaining assignments to exit assignment panel mode.

Setting Up Fixed Group members

Only Talk and Listen keys are valid as members of a fixed groups.

1. Press the “ASSMNT PNL” key so that the “REPLY” key status LED (lever key) or pushbutton or talk button illuminates red and “IFB” is displayed on the “REPLY” key.
2. Press the “REPLY” key or pushbutton or talk button so that “PL” is displayed on it.
3. Press the “REPLY” key or pushbutton or talk button again so that “FG” is displayed on it.
4. All available fixed group status LEDs or pushbuttons or talk buttons flash red.
5. Press the key or pushbutton or talk button for the desired fixed group.
6. The key’s status LED becomes solid red and all available members’ status LEDs or pushbuttons or talk buttons or rotary encoders flash green. In the case of rotary panels if a talk label is available the talk button will flash green and if a listen label is available the rotary encoder will flash green.
7. Press a key with the associated flashing green status LED or pushbutton or talk button or rotary encoder of an available member to add it to the party line.
8. The status LED or pushbutton or talk button or rotary encoder becomes solid green to indicate the member has been added to the fixed group.
9. To remove a member from the fixed group, press that member’s key. The solid green status LED or pushbutton or talk button or rotary encoder associated with that key blinks green to indicate it is now available.
10. Repeat steps 6 and 7 until the fixed group contains all desired members.
11. Press the “REPLY” key or Reply key talk button again to exit assignment panel mode.

SUPERVISE MENU

The supervise menu allows the user to select another panel to supervise from the panels listed in the sort groups. The target panel cannot be the current panel (an error message will be displayed if this is selected) and must be a V-Series panel with the same number of keys or fewer keys than the supervising panel.

Figure 2-139: Supervise Menu for Rack Mount Panels

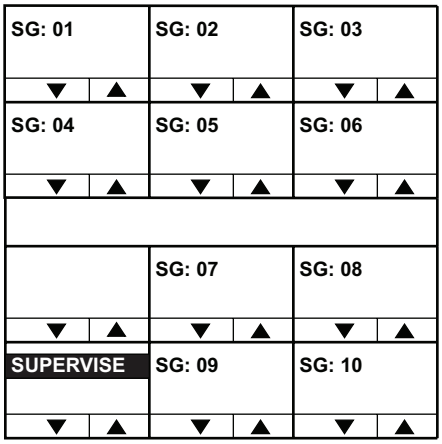

Figure 2-140: Supervise Menu for Desktop Panels

Use the Up/Down buttons (lever key and pushbutton panels) or the rotary encoder of the reply key to scroll through the sort groups and the talk/listen key or pushbutton or talk button to select the required sort group. The sort group menu will then be displayed for that sort group.

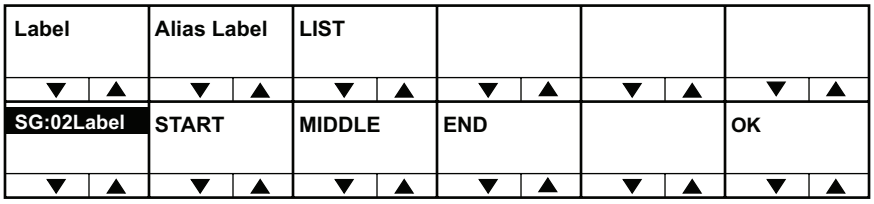

Figure 2-141: Supervise Label Menu for Rack Mount Panels

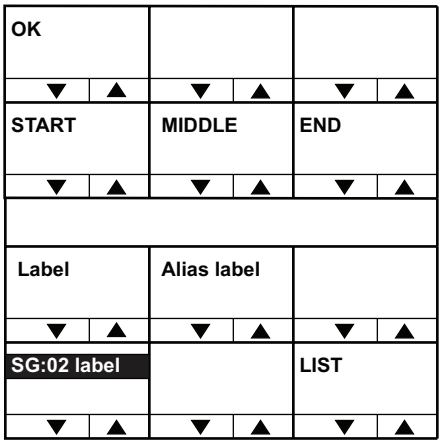

Figure 2-142: Supervise Label Menu for Desktop Panels

The selected sort group name is displayed on the reply key and the first member of the sort group is displayed on the top row of the display.

Selecting ‘START’ will take the user to the start of the sort group, selecting ‘MIDDLE’ will take the user to the middle of the sort group and selecting ‘END’ will take the user to the end of the sort group.

Selecting ‘OK’ will select the currently displayed member of the sort group and place the panel corresponding to the label into supervised mode. If it is unable to supervise the panel an error screen is displayed.

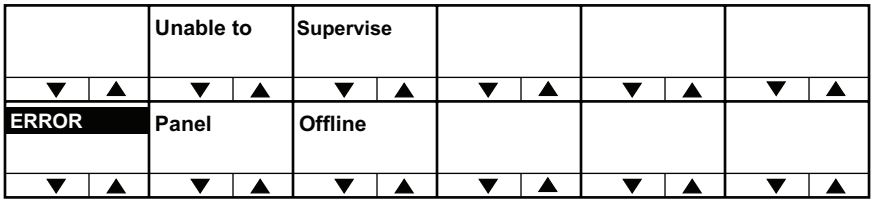

Figure 2-143: Supervisor Error Message for Rack Mount Panels

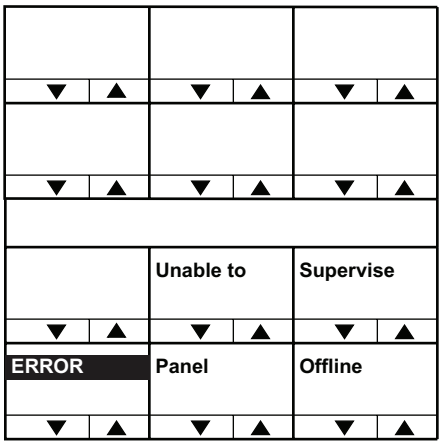

Figure 2-144: Supervisor Error Message for Desktop Panels

The message “Panel Offline” is only displayed if the reason that the target panel cannot be supervised is that it is offline. If there is another error such as an invalid port or panel type the message “Unable to Supervise” is displayed.

When the panel is actively supervising another panel the key displays on both panels are inverted to indicate the current state i.e. instead of light text on a dark background the key displays will show dark text on a light background.

When in Supervisor Mode the V-Series panel can mimic and control any 'target' V-Series panel in the local system. This involves remote actioning of key presses and displaying a mimic of the target panel's display. Whilst in Supervisor Mode all key presses are processed at the target panel.

V12LD, V24LD, V12PD and V24PD panel types can be selected as target panels to be supervised from other lever key and pushbutton panels. Rotary panels can only supervise other rotary panels and cannot be supervised by lever key or pushbutton panels. If a rotary Supervisor Panel selects a lever key or pushbutton panel as a target or a lever key or pushbutton Supervisor Panel selects a rotary panel as a target an error message is displayed. If a V-Series Supervisor Panel selects any other Matrix Plus 3 or 4000 Series II panels as a target panel an error message is displayed on the supervisor panel.

The following target panel features can be mimicked or controlled:

- Audio to the target panel
- Display text
- Display level control bars
- Key presses and releases
- Cross-point level control
- Microphone gain

- Loudspeaker cut
- Head-set select
- Microphone mute
- Side-tone control

General purpose inputs and outputs are not mimicked or remotely controllable as they may not be connected to the same hardware on the supervisor and target panels.

In particular, some of the general-purpose inputs and outputs have dedicated functions on a Supervisor Panel. Busy Feedback is not mimicked.

Pushbutton panels can supervise lever key panels but will not be able to mimic or control lever key up assignments; only the lever key down assignments will be supervised.

To exit supervisor mode the panel operator must hold down the ‘menu’ button on the keypad for at least 3 seconds. The key displays on both panels will then return to the normal (non-supervised) state.

A supervisor hot key can be configured in ECS which will allow rapid entry to supervisor mode. When the supervise hot key is selected the labels to panels which may be supervised will flash and the Reply key will display ‘SUPERVISE’ in highlighted mode. Pressing the Reply key or Reply key talk button will exit this mode.

Use the key or pushbutton or talk button to select one of the available panels to supervise and the panels will enter supervise mode.

To exit supervise mode press and hold the menu button.

SHIFT MENU

Pressing the ‘SHIFT’ key or talk button will display the shift menu to allow access to the eight shift pages. Pressing the shift key for less than 500ms will display the last selected shift page allowing the user to toggle between the main and shift page quickly. Pressing the shift key for more than 500ms will display the shift page menu.

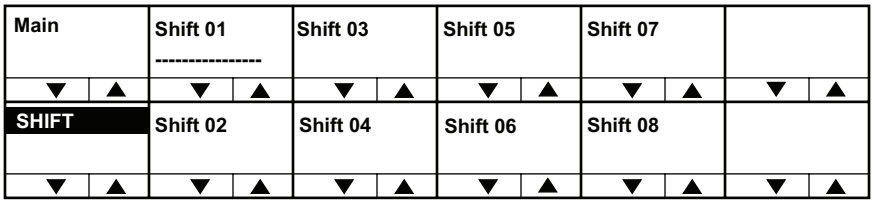

Figure 2-145: Shift Page Menu for Rack Mount Panels

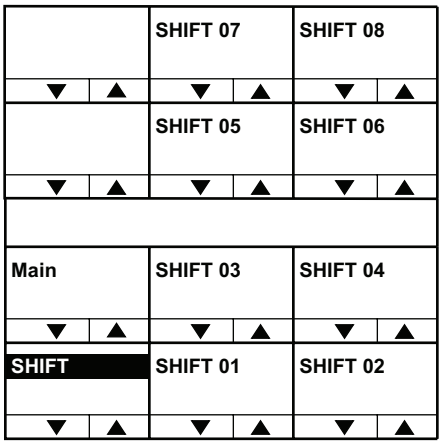

Figure 2-146: Shift Page Menu for Desktop Panels

The V-Series panels have up to nine pages of keys with page 0 being the main page by default. Pressing and holding the shift page button will display the shift page menu with the currently selected shift page indicated by a bar below the label.

The shift page labels will flash if there is an unanswered call on any key on the page. The talk/listen key or pushbutton or talk button is used to select a shift page and pressing and releasing the shift page button again will display the last selected shift page.

Pressing and releasing the shift page button will switch between the main page (page 0) and the last selected shift page.

Note: Shift pages are only available on main panels and not on expansion panels.

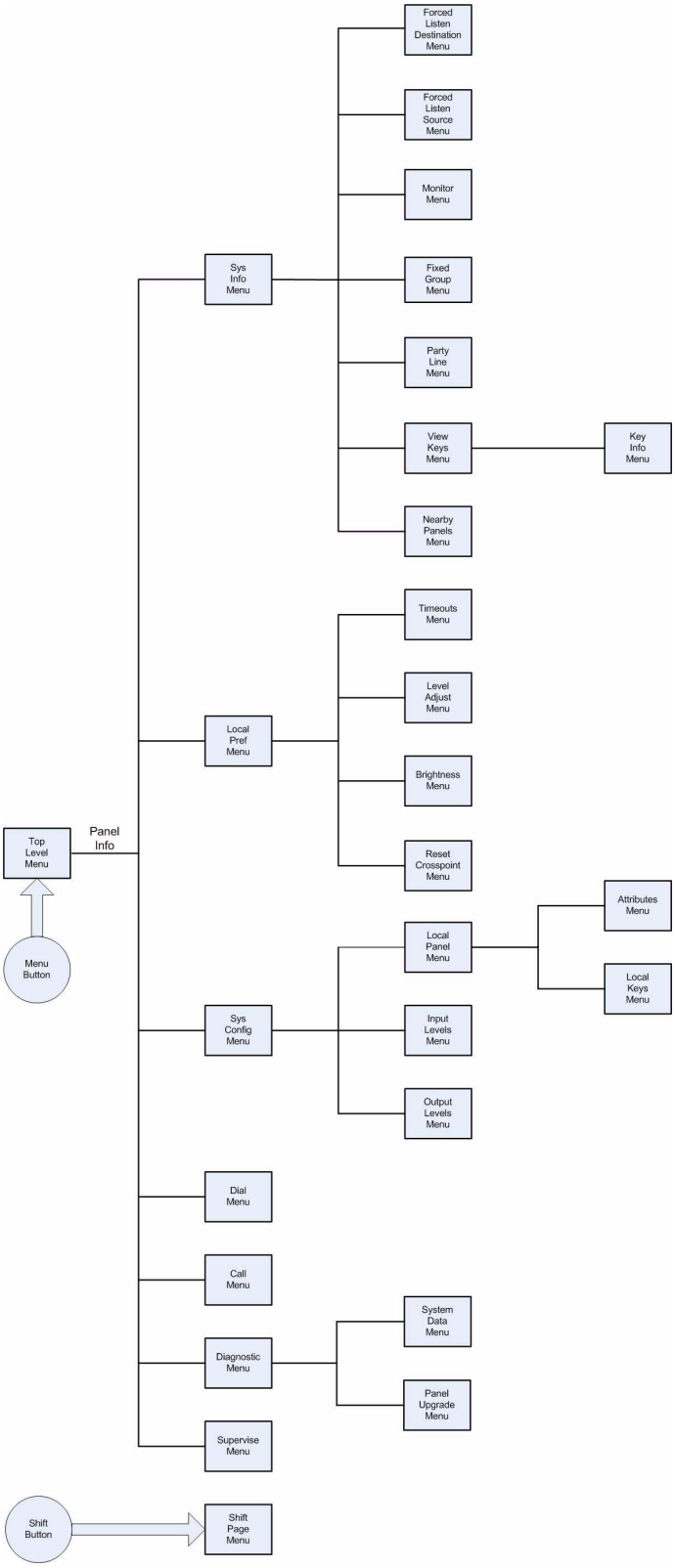

Figure 2-147: V-Series Menu Structure

CALL SIGNALLING

Pressing and holding both the Up and Down buttons of the label key (lever key and pushbutton panels) or the rotary encoder (rotary panel) will send a call signal to the destination label if the destination has been configured by ECS to allow call signalling tones.

DIAL PAD AND DTMF DIAL

The 2RU and desktop panels have a dial pad which can be used for DTMF dialling. To use the keypad for dialling press the ‘1’ key on the keypad to enter dial mode. Further key presses on the keypad will send DTMF tones to the matrix and comfort tones to the panel speaker or headset and the reply key will display ‘DIAL’.

Dial mode will automatically timeout after five seconds if no further digits are pressed. If the reply key or menu button is pressed dial mode will exit.

Communication-Error Indicator

If the panel should lose data communication with the matrix frame:

• It will display the message “Waiting for Eclipse”.

When data communication is restored, the panel will automatically return to normal operation.

Level Controls and Indicators

Main Level Control

A rotary encoder to adjust the speaker volume and an associated three-color indicator to indicate the level setting (green for minimum setting, orange for midrange setting and red for maximum setting). There is also a separate red LED to indicate loudspeaker cut. The indicator shows red when the loudspeaker is muted.

The main level control has a momentary push action used for loudspeaker cut.

Auxiliary Level Control

A rotary encoder to adjust the auxiliary speaker volume and an associated three-color indicator to indicate the level setting.

The auxiliary level control has a momentary push action to replay recorded audio messages and view listen labels on lever key panels if it is held down.

LED Tallies

LED tallies indicate the status of the associated key or audio route. In the case of lever key panels the LED tallies are set under the display window for the switch they are associated with while in the case of

push button panels the push buttons themselves act as tallies and there are no separate LEDs. In the case of rotary panels the rotary controls and the talk buttons act as tallies.

Pressing and holding the Aux Level Control button displays the listen labels on the lever key panels.

The signalling conventions for the indicator tallies are:

- Indicator on continuous bright red or green - audio route is active
- Indicator off - key is not configured or the menu option is not selectable
- Indicator flashing - user action requested or incoming call or call signal
- Indicator dim red - key is configured as a talk key or menu option is selectable
- Indicator bright red - panel to matrix audio route established
- Indicator dim green - key is configured as a listen key or menu option is selectable
- Indicator bright green - matrix to panel audio route established

Control Buttons

There are four buttons provided on the V-Series to control the panel microphone, shift pages, menu access and headset. The headset select button toggles between the panel microphone and the headset microphone.

Microphone Button

The microphone button enables and disables the panel microphone. A red indicator is lit when the panel microphone is on.

Shift Page Button

The shift page button allows the operator to swap between pages on the panel. A red indicator shows when a shift page has been selected.

Menu Button

The menu button displays the menu and allows navigation of the menu using the talk/listen keys. A blue indicator show when the menu is active.

Headset Pushbutton

The headset button enables and disables the panel headset. A red indicator shows when the headset is selected. Enabling the headset microphone will disable the panel microphone.

Keypad

The V24LD, V24PD, V24RD, V12LDD, V12PDD and V12RDD panels also include a keypad providing 0-9, * and # keys. The keypad can be used as a shortcut to access certain menus.

- 1 - Dial menu
- 2 - Local Exclusive
- 3 - Local Page Override
- 4 - Assignment Panel menu
- 5 - Local Key Assign menu
- 7 - Local Preferences menu
- # - Fast Key Assign

Level Adjustment Encoders

Lever Key Listen Level Adjustment

The listen level for each key on a lever key panel is adjusted using the volume up/down buttons situated below the display for that key shown in Figure 2-148.

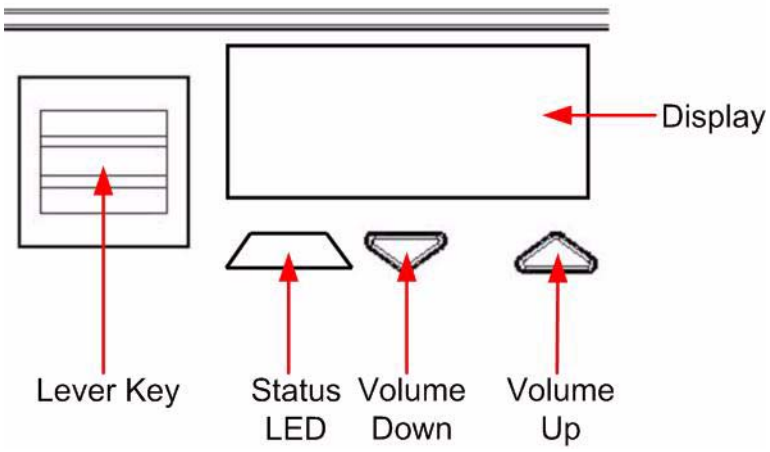

Figure 2-148: Lever Key Panel Volume Buttons

Pushbutton Listen Level Adjustment

The listen level for each key on a pushbutton panel is adjusted using the volume up/down buttons situated below the display for that key shown in Figure 2-149.

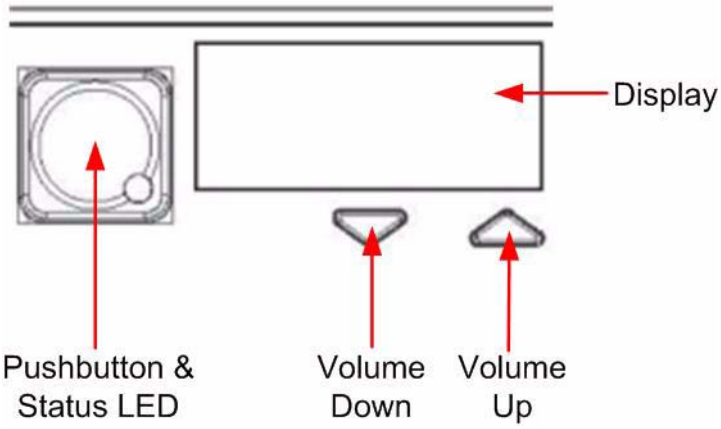

Figure 2-149: Pushbutton Panel Volume Buttons

Rotary Listen Level Adjustment

The listen level for each key on a rotary panel is adjusted using the rotary control situated beside the display for that key shown in Figure 2-150.

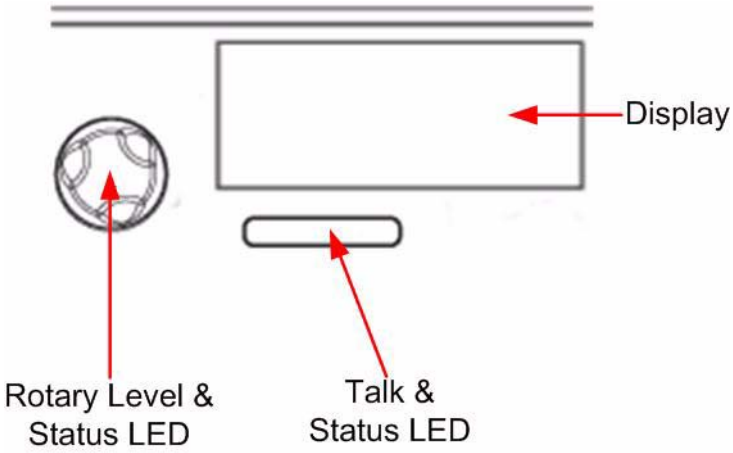

Figure 2-150: Rotary Panel Volume Buttons

Headset Connector

The headset connector provides a front-panel connection for a headset with automatic headset detection if enabled (see chapter 4 for details on internal switches). Plugging in a headset will initially cause the panel to switch to headset-microphone operation and will turn the front panel and aux speakers off and the front panel microphone off. The LS Cut and Mic indicators will reflect the devices being disabled.

Unplugging the headset will cause the panel to switch to panel-microphone operation and will turn the speakers on. If the main speaker has already been cut before the headset was plugged in it would remain muted but when the headset was unplugged it would be

enabled regardless or its previous state. Also, if the main volume switch is pressed while the headset is plugged the automatic LS Cut will be overridden and audio will be output on the main speaker as well as the headset. Similarly if the auxiliary speaker cut is manually overridden with the headset plugged in audio will be output through the auxiliary speaker.

If the Headset Select button is pressed when the headset is plugged in the headset audio will be disabled but audio output to the main and auxiliary speakers will not be automatically enabled, therefore if they are disabled there will be no audio output to headset or speaker.

Talk/Listen Lever Keys and Indicators

The following section describes the operation of the talk/listen lever keys and their associated indicators.

Lever Key Operation

The lever keys operate as both talk and listen selectors. Pressing a lever key down accesses a talk label; pushing it up accesses a listen label. Pushing the lever key down and quickly releasing it (less than 200 ms) will “latch” the key and the talk path will stay active until it is pressed again. Pressing and holding a lever key down causes the talk path to stay active only for as long as it is held down. The listen function operates in the same manner.

To prevent any other source from latching a talk to the panel set ‘Latch Disable’ to true under Global Settings for the panel in the configuration program (ECS).

Talk and Listen Indicators

The status LED illuminates to act as a talk or listen indicator. The colors used to indicate status are:

- Red - Talk path active
- Green - Listen path active
- Amber - Talk and Listen path active

Talk/Listen Pushbuttons and Indicators

The following section describes the operation of the talk/listen pushbuttons and their associated indicators.

Pushbutton Operation

The pushbuttons operate as talk or listen selectors depending on the key configuration. A combo key configuration will allow talk and listen or talk and forced listen. The pushbuttons are illuminated to show the talk or listen status. Pressing the button and quickly releasing it (less than 200 ms) will “latch” the button and the talk or listen path will stay active until it is pressed again. Pressing and holding a pushbutton

down causes the talk path to stay active only for as long as it is held down. The listen function operates in the same manner.

To prevent any other source from latching a talk to the panel set ‘Latch Disable’ to true under Global Settings for the panel in the configuration program (ECS).

Talk and Listen Indicators

The pushbuttons are illuminated to act as talk or listen indicators. The colors used to indicate status are:

- Red - Talk path active
- Green - Listen path active
- Amber - Talk and Listen

Talk/Listen Rotary Keys and Indicators

The following section describes the operation of the talk/listen rotary keys and their associated indicators.

Rotary Operation

The rotary encoders operate as listen selectors and tallies. The rotary encoders are illuminated green to show the listen status. Pressing the rotary encoder and quickly releasing it (less than 200 ms) will “latch” the key and the listen path will stay active until it is pressed again. Pressing and holding a rotary encoder down causes the listen path to stay active only for as long as it is held down.

The rotary encoders also operate a level controls.

To prevent any other source from latching a talk to the panel set ‘Latch Disable’ to true under Global Settings for the panel in the configuration program (ECS).

Talk Button Operation

The talk buttons below the displays operate as talk selectors. The talk buttons are illuminated red to show talk status. Pressing the talk button and quickly releasing it (less than 200 ms) will “latch” the button and the talk path will stay active until it is pressed again. Pressing and holding a talk button down causes the talk path to stay active only for as long as it is held down.

Talk and Listen Indicators

The rotary controls and talk buttons are illuminated to act as talk or listen indicators. The colors used to indicate status are:

- Red - Talk path active
- Green - Listen path active

Monitoring/Eavesdropping Indicators

If any other panel begins monitoring a panel a beep (the monitoring-alert tone) will sound at the panel and the panel monitoring symbol will be displayed on the reply key.

To inhibit the monitoring-alert tone, use the configuration program ECS.

Call-Waiting Indicator

If a panel receives an incoming call from another panel and the called panel has a button configured as a route to the calling panel, the red LED on that button will flash rapidly (another color may be used if the panel has been configured for 4000 Series II emulation). This flashing is a call-waiting tally. To answer the incoming call, push the indicated talk selector. The call-waiting tally will be cleared when the call is answered or after the call is terminated and the answer-back, auto-clear time out lapses.

Regardless of whether a selection is programmed with a caller's label, the label will be placed in the answer-back stack (unless reply key bar is set for that label in ECS).

In-Use Tally Indicator

If a selector is assigned to a label and another panel is currently using that label, the key indicator LED or pushbutton or talk button will double-flash once per second to indicate the label is in use. This tally must be enabled from the configuration software.

Telephone Off-Hook Tally Indicator

When a telephone interface is assigned to a talk selector, the talk LED will flash once per second if that telephone is off-hook. This tally must be enabled from the configuration program.

Radio Receiver Active Tally Indicator

When a two-way radio interface port is assigned to a talk selector, the key indicator LED or pushbutton or talk button will flash once per second when that radio's receiver is active. This tally must be enabled from the configuration program.

Panel Connected Tally Indicator

This tally is used when a panel is connected to the frame by a high-speed data line (such as an ISDN or T1 line) that might be inactive periodically. The red LED of any talk selector associated with that panel will flash once per second when the panel is on-line. This tally indicator also operates on remote panels connected to the matrix over IP directly or via VoICE units, or over ISDN/T1 using 3rd party products.

This tally must be enabled for the panel in ECS.

Audio Presence Tally Indicator

When a label is assigned to a listen selector, the LED will flash green once per second to indicate someone is talking on that channel. This tally must be enabled from the configuration program.

LISTEN AGAIN

The Listen Again facility will store up to fifteen seconds worth of audio as up to ten separate audio “messages”. The messages are accessed by pressing the auxiliary volume control to step back through the messages. Pressing and releasing the auxiliary volume control within 500ms will replay the first message. Pressing and releasing the auxiliary volume control twice in 1 sec will step back to the second message, three presses in 1.5 sec will step back to the third message. When the control is used to step back to a message earlier that the last message all the subsequent messages are played with a beep between messages. When the last message in the playback is completed two longer beeps are output to signal the end of playback.

The Listen Again system does not store silences between sentences etc but the silences are used to determine the end of audio sequences to be stored as messages. By default the level at which the audio is deemed to be silence rather than recordable input is set to -35dB. The system will allow for the gaps between words in a sentence so that a sentence is not broken up by the silences between words.

If the auxiliary volume control is pressed again during playback causes the replay to restart.

When active the Listen Again facility will continually record over the existing audio so that only the last fifteen seconds of audio is held. However recording will cease when playback is activated to prevent messages that are being listened to being overwritten.

The ‘Message Auto Delete’ setting in ECS ‘Advanced Settings’ determines how long in minutes audio messages are retained by the Listen Again facility. If the time is set to 99 minutes messages are retained indefinitely otherwise they are automatically deleted once the time limit has expired. If the time is set to zero then the Listen Again facility is disabled.

REAR-PANEL CONNECTORS

The rear panel connectors on the V Series main panels without option cards fitted are:

- Power
- GPIO connector (DB25F)
- LAN connector (RJ45)
- Auxiliary Audio (DB25M)
- Matrix port (RJ45)
- Expansion panel (RJ45)

The rear panel connectors on the V Series expansion panels are:

- Power
- Expansion panel in (RJ45)
- Expansion panel out (RJ45)

The rear panel connectors are described in detail in the installation chapter.

3 IP CONFIGURATION

INTRODUCTION

V-Series panels running application code V1.73 or above are automatically enabled for IP operation without the need for an IP license. V-Series panels running a prior IP capable version of the application code must be enabled for IP operation using a license code input to the panel or upgraded to V1.73 or later. For further details on how to license IP operation please contact Clear-Com sales or your distributor.

When an V-Series panel is enabled for IP it can connect to an Eclipse matrix over a standard ethernet network using an IVC-32 card. Each IVC-32 card can support up to 32 V-Series panels using IP.

Once the V-Series panel has been enabled for IP some extra menus are available to configure the panel to use the IP network.

Initially a V-Series panel is not enabled for IP. In order to enable the panel it is necessary to enter a ten digit passcode which is stored in the panel. If the IP SETUP menu is entered and the panel is not already enabled for IP the passcode entry menu is displayed.

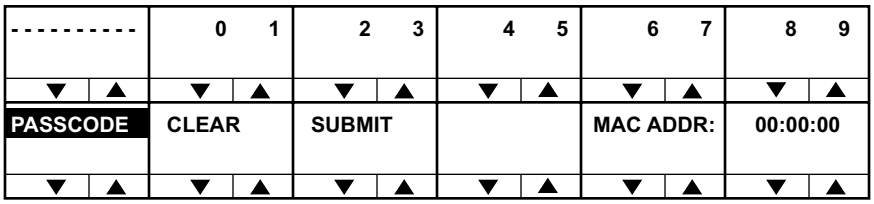

Figure 3-1: Rack Mount Panel Passcode Entry Menu

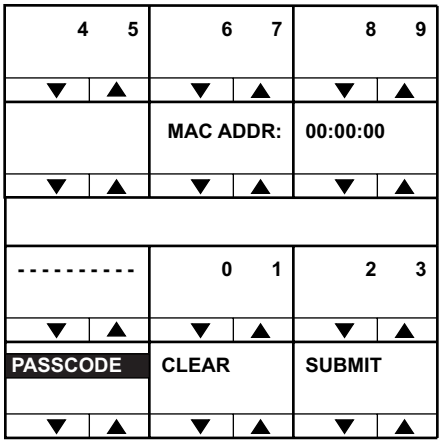

Figure 3-2: Desktop Panel Passcode Entry Menu

To access the IP menus press the ‘Menu’ button and then the ‘Info’ knob. The panel will then display the local maintenance menu. Alternatively if the only connection to the panel is to the LAN port it will automatically display the ‘IP SETUP’ item to prompt the user to enable the panel for IP access if it is not enabled.

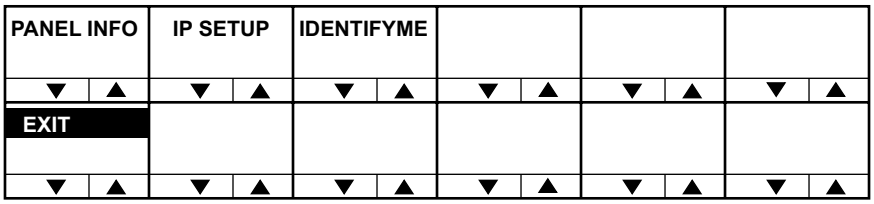

Figure 3-3: Rack Mount Panel IP Setup Using Maintenance Mode

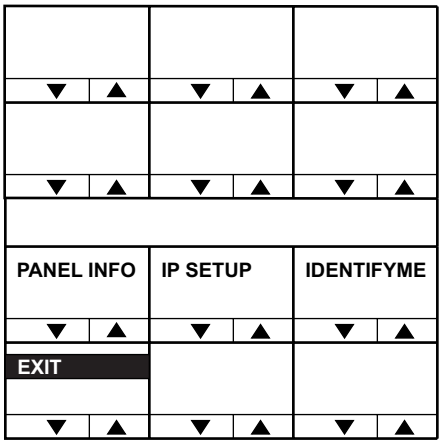

Figure 3-4: Desktop Panel IP Setup Using Maintenance Mode

Select ‘IP SETUP’ to enter the IP configuration menus or ‘PANEL INFO’ to enter the maintenance menus.

Selecting ‘IDENTIFYME’ will cause the panel to flash the panel buttons or LEDs red and display ‘IDENTIFYME’ in the bottom left display. When in this mode the panel will signal ECS so that the panel can be identified within ECS. Selecting the ‘IDENTIFYME’ key will cancel identify mode.

Identification mode can also be started from ECS in which case the same display mode will be seen.

IP MENUS

The initial IP menu provides access to the panel IP configuration and allows the operator to connect to the matrix.

IP SETUP

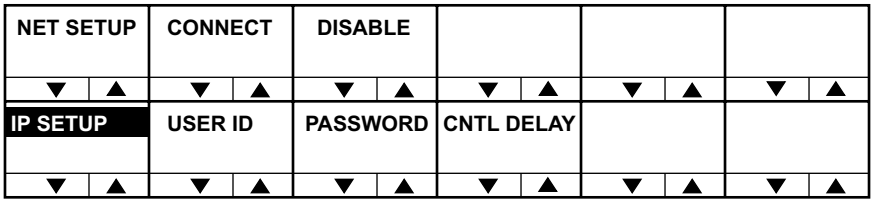

Figure 3-5: Rack Mount Panel IP Setup Menu

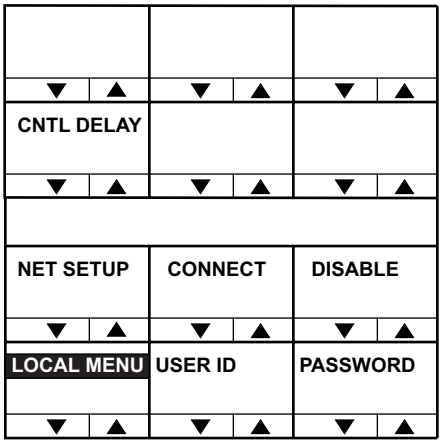

Figure 3-6: Desktop Panel IP Setup Menu

The IP options on the menu are:

NET SETUP - selects the IP setup menu.

CONNECT - select to initiate panel login to the matrix.

DISABLE - disables IP connectivity on the panel. If this is selected the panel passcode must be reentered in order to enable panel IP again.

USER ID - select this item to enter the user identifier the panel is to use when logging in to the matrix.

PASSWORD - select this item to enter the user password the panel is to use when logging in to the matrix.

CNTL DELAY - select this item to configure a delay on processing of the key up for intercom keys.

NET SETUP

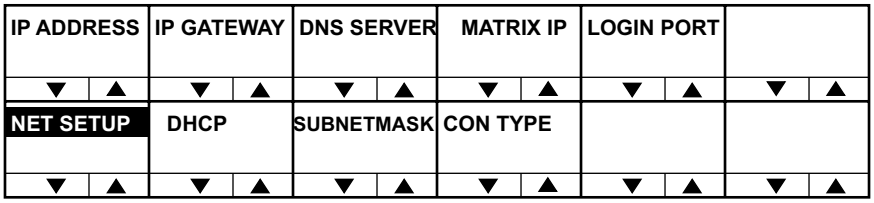

Figure 3-7: Rack Mount Panel IP Setup Menu

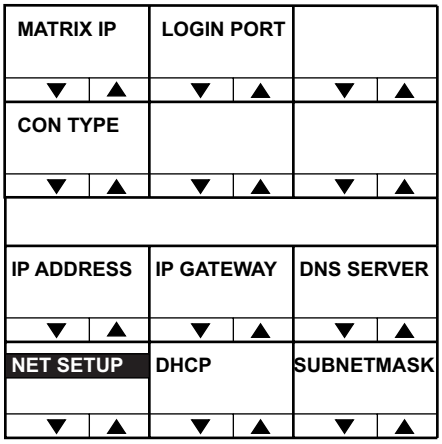

Figure 3-8: Desktop Panel IP Setup Menu

The net setup options are used to configure IP addresses and network connection parameters.

IP ADDRESS - set the IP address of the panel.

IP GATEWAY - set the IP address of the gateway to be used by the panel when connecting to the matrix.

DNS SERVER - the IP address of the Domain Name server to be used by the panel.

MATRIX IP - the IP address of the matrix the panel is to connect to. This address refers to the IVC-32 card address that is set up in ECS.

LOGIN PORT - the IP port that the panel uses when logging in to an Eclipse matrix. This must be the same as the port set up in ECS under “System Preferences/IP Panels” for the Eclipse to listen for logins. Once the panel has logged in the panel will be sent the IP address and port to use when communicating with the IVC-32 card. This is configured in ECS under “Matrix Hardware”.

DHCP - sets whether DHCP (Dynamic Host Configuration Protocol) is enabled or disabled. If it is enabled the panel can be assigned an IP address, subnet mask, gateway address and DNS server automatically from the DHCP server rather than having to manually configure the panel. If DHCP is enabled pushbutton panels will show

the DHCP pushbutton flashing green; lever key panels will show the talk/listen indicator flashing green. If DHCP is enabled the IVC-32 cards should also be assigned automatically to ensure manually assigned addresses do not clash with those assigned by the DHCP server.

SUBNETMASK - sets the subnet mask for the IP network the panel is to be used on. Commonly the subnet mask will be 255.255.255.0.

CON TYPE - determines the connection type. This may be WAN (Wide Area Network), LAN (Local Area Network) or INTERNET. The connection type may determine whether DHCP and DNS are used.

CONNECT

Select 'CONNECT' to initiate panel login to a matrix. The panel login process has three phases. In phase 1 the panel checks the network and attempts to reach the address of the login server. In phase 2 the panel verifies the user ID and user password. In phase 3 the panel completes the connection process.

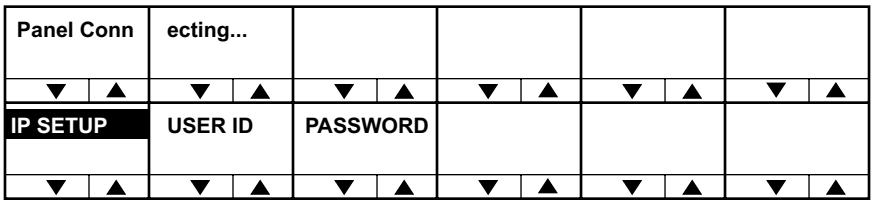

Figure 3-9: Rack Mount Panel IP Connection

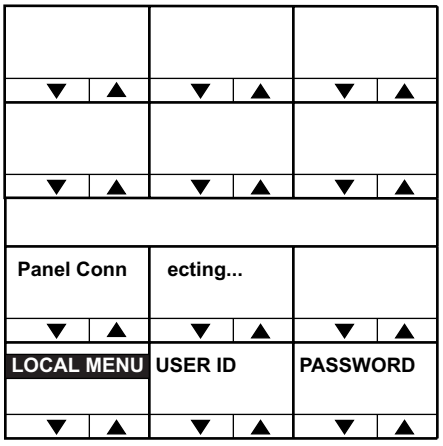

Figure 3-10: Desktop Panel IP Connecting

During the phase 1 of the panel connect process only progress messages will be displayed without status codes.

If an error occurs then an error message will be displayed. The initial status messages are listed in Table 3-1 below.

Status Messages	Meaning
Network not connected	LAN cable not inserted. If DHCP mode selected, a DHCP server was not found
IVC Server not found	The login server is inaccessible or not running
Login USER xyz denied	The login server could not find an online IVC to log the panel into

Table 3-1: Initial Status Messages

Once the initial phase of the panel connect has completed the second phase will be initiated during which the panel will identify itself to the host matrix. During this phase status messages will be displayed with status codes and sub-codes. The primary status codes are given in Table 3-2.

Status Code	Meaning
Err 1:0 Check User ID	The name or password supplied were invalid
Err 4:0 Media busy	The system is busy and will try again shortly
Info 3:0 Connecting...	OK, connecting to the IVC
Info 5:0 Reconnecting	OK (the call is being made again with new codec settings)
Err 8:0 Connection lost	The IVC connection was lost

Table 3-2: Panel Connect Status Codes and Meanings

The IVC-32 card was reachable, but some other error has occurred indicating a more detailed networking or configuration issue. The error code starts with 6 and a more detailed reason as below.

Code	Message Text	Meaning
Err 6:0	Local call cleared	
Err 6:1	Call rejected locally	
Err 6:2	Locally declined	
Err 6:3	Remote cleared call	IVC-32 has cleared the call
Err 6:4	Remote refused call	IVC-32 has refused to accept the call from the panel

Code	Message Text	Meaning
Err 6:5	Remote ans. timeout	The IVC-32 has not replied to the call within the timeout period
Err 6:6	Remote stopped	IVC-32 card has stopped responding
Err 6:7	Transport cleared	
Err 6:8	Transport connection	
Err 6:9	Gatekeeper cleared	
Err 6:10	Cannot find user	The user name specified by the panel is not known to the target system
Err 6:11	Not enough bandwidth	The network did not have enough bandwidth available for a connection
Err 6:12	No common capabili-ties	
Err 6:13	Call was forwarded	
Err 6:14	Bad password	The panel name or the pass-word is incorrect
Err 6:15	Local end busy	Network congested
Err 6:16	Local end busy	Network congested
Err 6:17	Remote end busy	Network congested or IVC-32 busy
Err 6:18	Remote end busy	Network congested or IVC-32 busy
Err 6:19	Remote party unavail.	Target IVC-32 could not be contacted
Err 6:20	Remote disconnected OK	The IVC-32 has terminated the connection
Err 6:21	Remote offline	The IVC-32 could not be reached
Err 6:22	Remote may retry	IVC-32 may retry the connect.
Err 6:23	Remote unmapped	
Err 6:24	Call duration exceeded	

Code	Message Text	Meaning
Err 6:25	Invalid conference ID	
Err 6:26	Connection timed out	Network load cased disconnect

Table 3-3: Panel Connect Sub-Codes

If an error is reported the appropriate corrective action should be taken. In many cases the error will be caused by an invalid user ID or password being used. If the error indicates a network problem such as insufficient bandwidth the user should contact the network administrator to resolve the problem.

USER ID

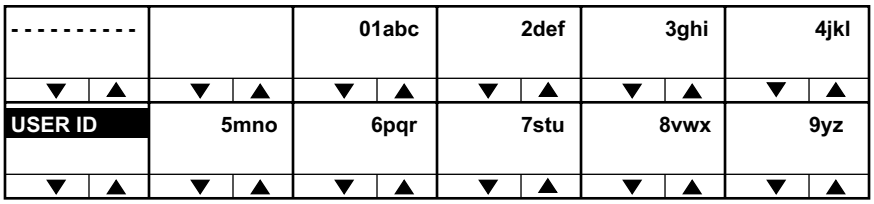

Figure 3-11: Rack Mount Panel User ID Input Menu

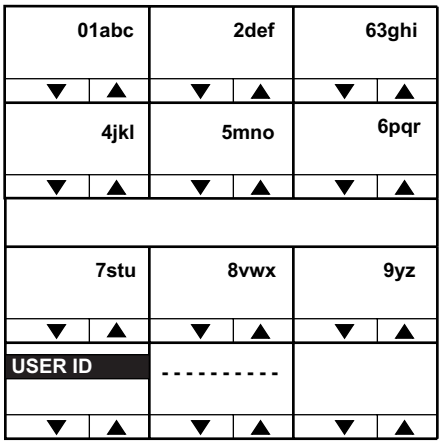

Figure 3-12: Desktop Panel User ID Input Menu

Set up the user ID that the panel will use to log in to the Eclipse matrix. This must correspond to a user ID set up for a port on an IVC-32 card in ECS under “Matrix Hardware” in Advanced Settings/IP Panel Settings. The user ID is a string of up to ten characters 0 to 9 and A to F. Enter up to ten characters using the up/down volume buttons (lever key and pushbutton panels) to select the characters. For rotary panels repeatedly pressing the talk button is used to select the characters. After each character has been selected the input will advance to the next character. Pressing the lever key down or the pushbutton or the rotary encoder will step back to the previous character allowing it to be changed. When the password has been entered exit the menu using the ‘USERID’ key or talk button.

PASSWORD

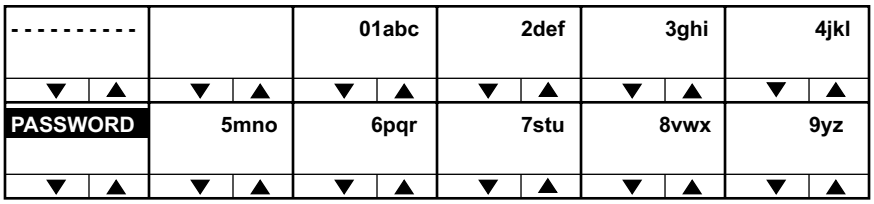

Figure 3-13: Rack Mount Panel Password Input Menu

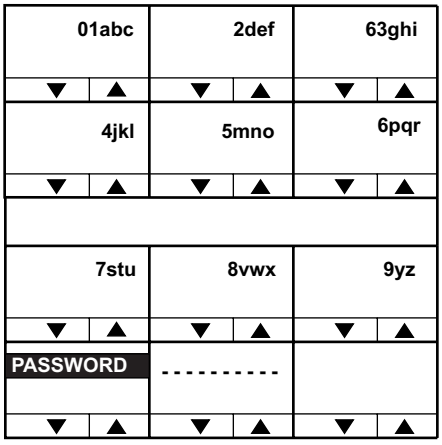

Figure 3-14: Desktop Panel Password Input Menu

Set up the password that the panel will use to log in to the Eclipse matrix. This must correspond to the password for the user ID set up in ECS under “Matrix Hardware” in Advanced Settings/IP Panel Settings. The password is a string of up to ten characters 0 to 9 and A to F.

Use the ‘CLEAR’ key to clear the password and then enter up to ten characters using the up/down volume buttons (lever key and pushbutton panels) to select the characters. For rotary panels repeatedly pressing the talk button is used to select the characters. After each character has been selected the input will advance to the next character. Pressing the lever key down or the pushbutton or the rotary encoder will step back to the previous character allowing it to be changed. When the password has been entered exit the menu using the ‘PASSWORD’ key or talk button.

MATRIX IP ADDRESS

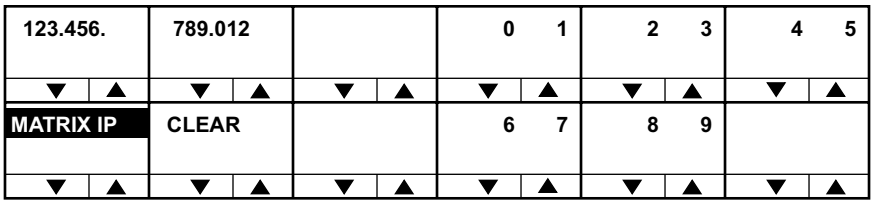

Figure 3-15: Rack Mount Panel Matrix IP Address Input

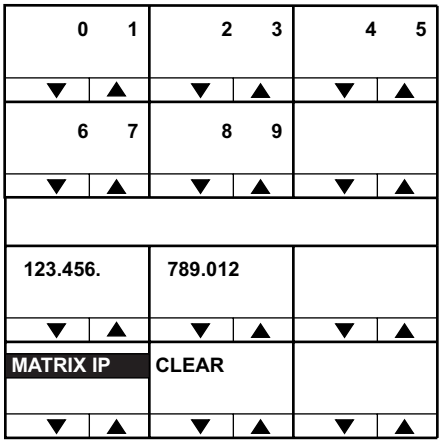

Figure 3-16: Desktop Panel Matrix IP Address Input

Use the ‘CLEAR’ key to clear the matrix IP address and then enter the new address using the up/down volume buttons (lever key and pushbutton panels) to select the digits. For rotary panels press the rotary encoder to select the left digit and the talk button to select the right digit. Each time a digit is selected the cursor will advance to the next digit automatically. Pressing the lever key down or the pushbutton or the rotary encoder will step back to the previous digit allowing it to be changed. When the matrix IP address has been entered exit the menu using the ‘MATRIX IP’ key or talk button.

CONTROL DELAY

The control delay feature allows the panel user to configure a delay on the processing of the key up for intercom keys. The delay is only applied to dumb panel intercom page keys i.e. keys usually resulting in the making or breaking of audio routes. The menu access keys are not affected.

This feature may be required on certain audio links with multiple IP encodes and decodes in place as the link control data can overtake the audio on the link resulting in truncation of the audio. To avoid audio truncation this delay can be configured. The default setting for this is zero delay on the key up processing.

The setting is held locally on the panel and therefore if the panel is moved to another port on the system it will take the control delay setting with it. The control delay has to stay with the panel as it is based on geographical location and therefore the size of audio and control latency.

The control delay range is 0ms to 9999ms. The granularity of this setting is in blocks of 50ms with the delay set being rounded down to the nearest multiple of 50ms. For example if less than 50ms is set no delay is applied. If between 50 and 100ms is set, 50ms will be applied.

Although the control delay screen is accessed from the top level IP settings menu it will be applied whatever the link type to the matrix as this will allow it to be used on 4 wire based VoICE unit connections.

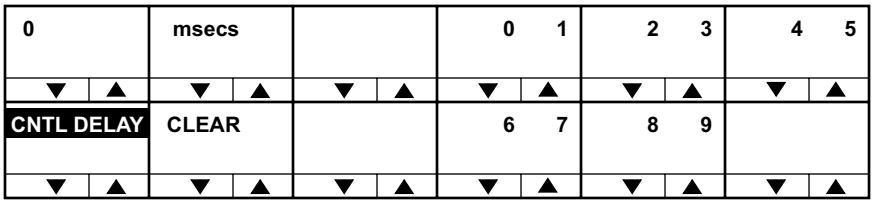

Figure 3-17: Rack Mount Panel Control Delay Input

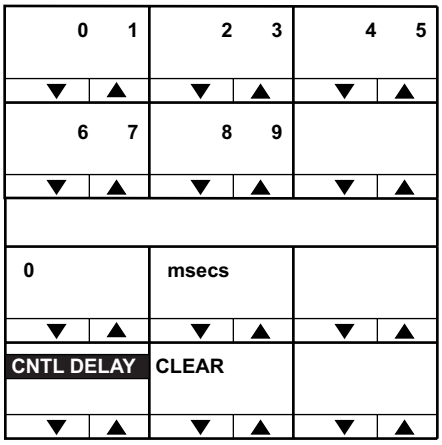

Figure 3-18: Desktop Panel Matrix Control Delay Input

Use the ‘CLEAR’ key to clear the control delay and then enter the new control delay using the up/down volume buttons (lever key and pushbutton panels) to select the digits. For rotary panels press the rotary encoder to select the left digit and the talk button to select the right digit. Each time a digit is selected the cursor will advance to the next digit automatically. Pressing the lever key down or the pushbutton or the rotary encoder will step back to the previous digit allowing it to be changed. When the control delay has been entered exit the menu using the ‘CNTL DELAY’ key or talk button.

SUBNET MASK

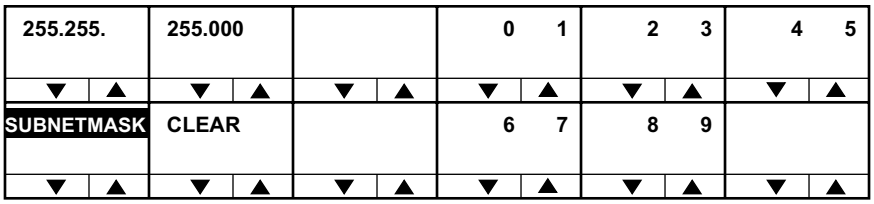

Figure 3-19: Rack Mount Panel Subnet Mask

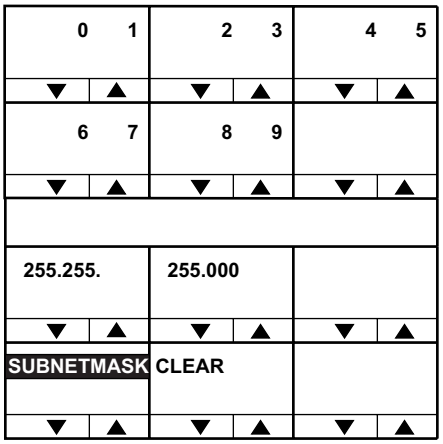

Figure 3-20: Desktop Panel Subnet Mask

Use the ‘CLEAR’ key to clear the subnet mask and then enter the new subnet mask using the up/down volume buttons (lever key and pushbutton panels) to select the digits. For rotary panels press the rotary encoder to select the left digit and the talk button to select the left digit. Each time a digit is selected the cursor will advance to the next digit automatically. Pressing the lever key down or the pushbutton or the rotary encoder will step back to the previous digit allowing it to be changed. When the subnet mask has been entered exit the menu using the ‘SUBNETMASK’ key or talk button.

LOGIN PORT

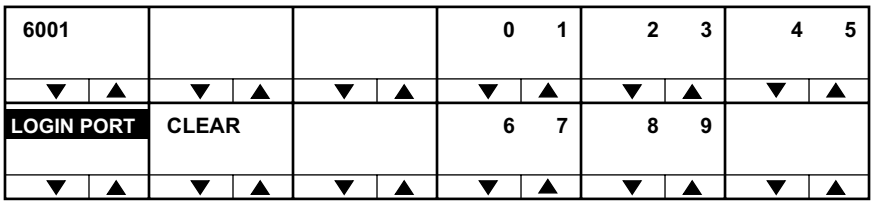

Figure 3-21: Rack Mount Panel Login Port Input

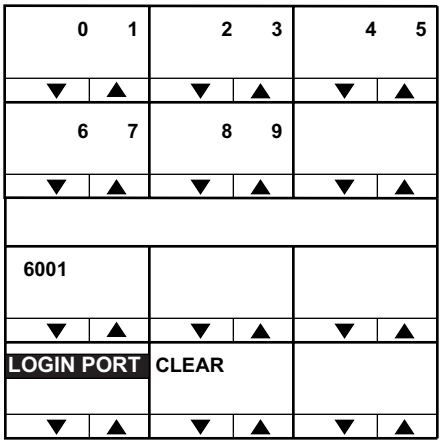

Figure 3-22: Desktop Panel Login Port Input

Use the ‘CLEAR’ key to clear the login port number and then enter the new login port number using the up/down volume buttons (lever key and pushbutton panels) to select the digits. For rotary panels press the rotary encoder to select the left digit and the talk button to select the left digit. Each time a digit is selected the cursor will advance to the next digit automatically. Pressing the lever key down or the pushbutton or the rotary encoder will step back to the previous digit allowing it to be changed. When the login port number has been entered exit the menu using the ‘LOGIN PORT’ key or talk button. The IP port that the panel uses when logging in to a matrix must be the same as the port set up in ECS for the matrix to listen for logins.

This may not be the same port number used by the panel to communicate with an IVC-32 card set up in ECS under “Matrix Hardware”.

When a panel logs in to an Eclipse matrix the matrix will send the IP address of the IVC-32 card and the port number to use back to the panel.

DHCP CONTROL

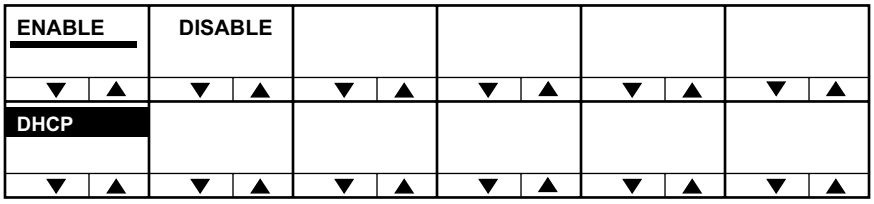

Figure 3-23: Rack Mount Panel DHCP Control

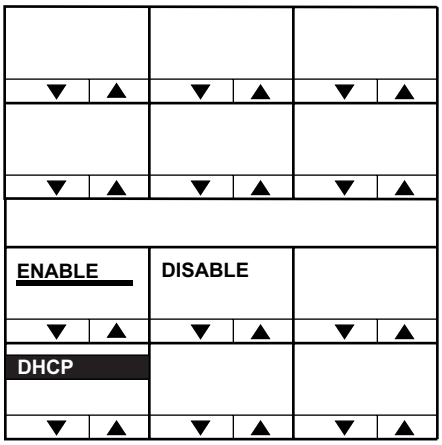

Figure 3-24: Desktop Panel DHCP Control

The DHCP control menu allows the user to enable or disable the panel using a DHCP server. The current DHCP state is indicated by an inverse video bar. Use the 'ENABLE' or 'DISABLE' keys to enable or disable DHCP and the 'DHCP' key or talk button to exit the menu.

CLEAR CONFIRM MENU

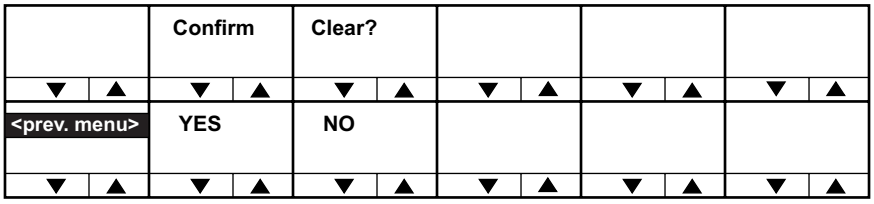

Figure 3-25: Rack Mount Panel Confirm Menu

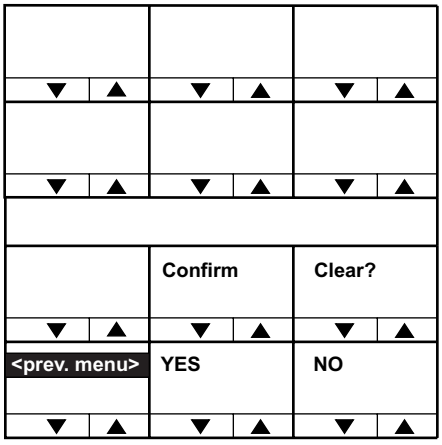

Figure 3-26: Desktop Panel Confirm Menu

When a 'CLEAR' key is used to clear an item such as IP address a confirmation menu will be displayed. Use the 'YES' or 'NO' keys to

confirm that the item is to be cleared. When one of the keys is used the original menu will be redisplayed with the item cleared or not cleared.

PANEL IP ADDRESS

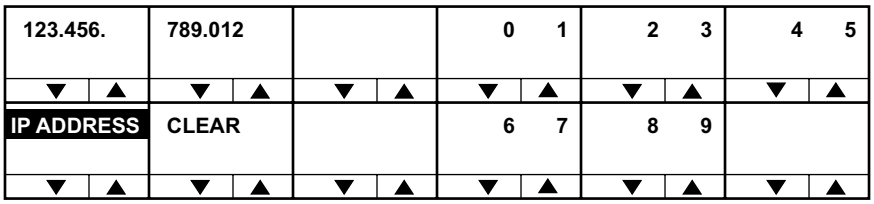

Figure 3-27: Rack Mount Panel IP Address Menu

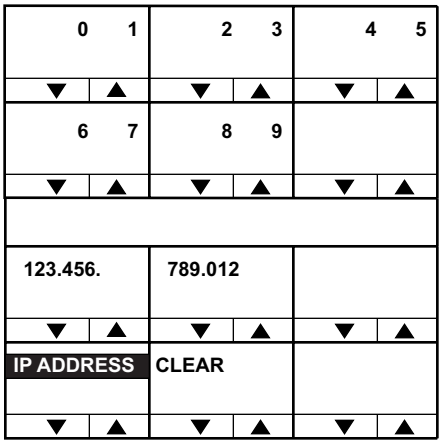

Figure 3-28: Desktop Panel IP Address Menu

Use the 'CLEAR' key to clear the panel IP address and then enter the new address using the up/down volume buttons (lever key and pushbutton panels) to select the digits. For rotary panels press the rotary encoder to select the left digit and the talk button to select the left digit. Each time a digit is selected the cursor will advance to the next digit automatically. Pressing the lever key down or the pushbutton or the rotary encoder will step back to the previous digit allowing it to be changed. When the panel IP address has been entered exit the menu using the 'IP ADDRESS' key or talk button.

IP Address Assignment

Important

It is important to ensure that the panel IP address does not clash with any other IP address on the network (another device is using the same IP address). If there is an IP address clash the panel may repeatedly lose the connection with the IVC-32 card. If the panel IP address clashes with the IVC-32 card it may also cause the IVC-32 card to crash.

It is recommended that DHCP is used wherever possible to automatically assign IP addresses rather than assigning IP addresses manually in order to reduce the risk of an address clash (see "DHCP Control" on page 3-14).

IP GATEWAY

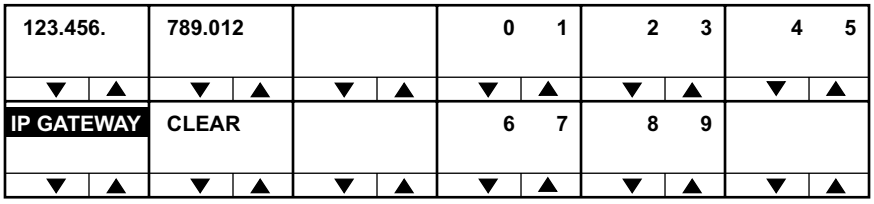

Figure 3-29: Rack Mount Panel Gateway IP Address Menu

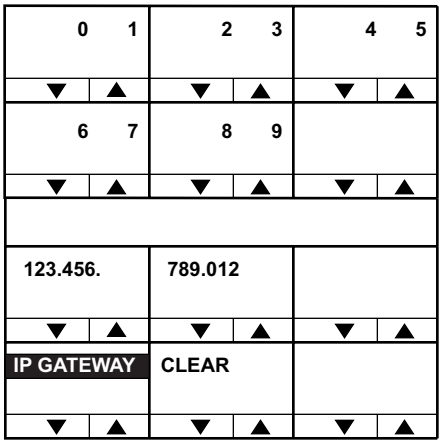

Figure 3-30: Desktop Panel Gateway IP Address Menu

Use the ‘CLEAR’ key to clear the Gateway IP address and then enter the new address using the up/down volume buttons (lever key and pushbutton panels) to select the digits. For rotary panels press the rotary encoder to select the left digit and the talk button to select the left digit. Each time a digit is selected the cursor will advance to the next digit automatically. Pressing the lever key down or the pushbutton or the rotary encoder will step back to the previous digit allowing it to be changed. When the Gateway IP address has been entered exit the menu using the ‘IP GATEWAY’ key or talk button.

DNS ADDRESS

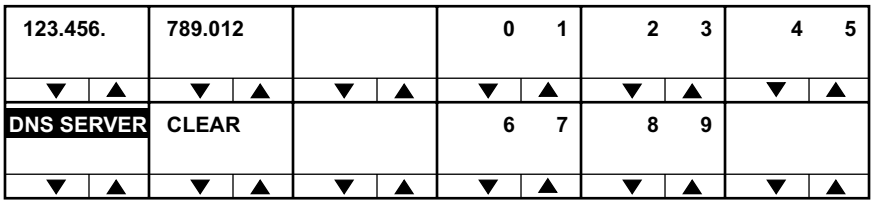

Figure 3-31: Rack Mount Panel DNS Server IP Address Menu

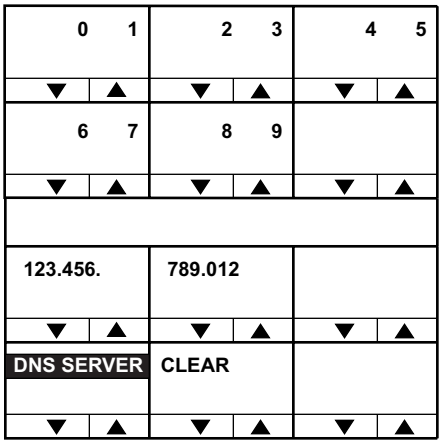

Figure 3-32: Desktop Panel DNS Server IP Address Menu

Use the ‘CLEAR’ key to clear the DNS IP address and then enter the new address using the up/down volume buttons (lever key and pushbutton panels) to select the digits. For rotary panels press the rotary encoder to select the left digit and the talk button to select the left digit. Each time a digit is selected the cursor will advance to the next digit automatically. Pressing the lever key down or the pushbutton or the rotary encoder will step back to the previous digit allowing it to be changed. When the DNS IP address has been entered exit the menu using the ‘DNS SERVER’ key or talk button.

CONNECTION TYPE

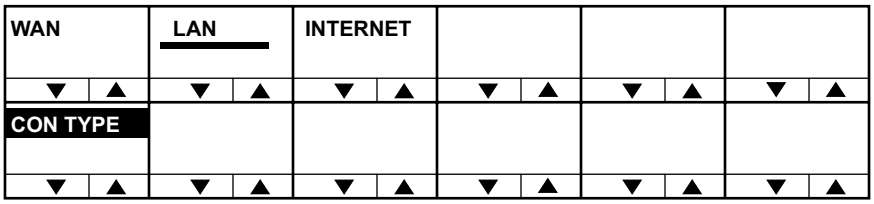

Figure 3-33: Rack Mount Panel IP Connection Type Menu

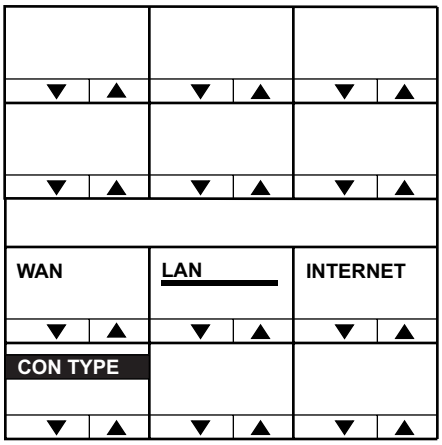

Figure 3-34: Desktop Panel IP Connection Type Menu

Three types of IP network connection are supported by V-Series IP panels. These are:

WAN - Wide Area Network. This type of network covers a broad area and may include a number of local area networks.

LAN - Local Area Network. This type of network usually covers a small area such as an office or a single building or business.

Internet - Global network that may be used to connect local networks in various locations around the world.

The type of network currently selected is shown by an inverse video bar under the network type. To select a connection type press the key or talk button corresponding to the network type and the indicator bar will move to the selected type. Press the 'CON TYPE' key or talk button to exit.

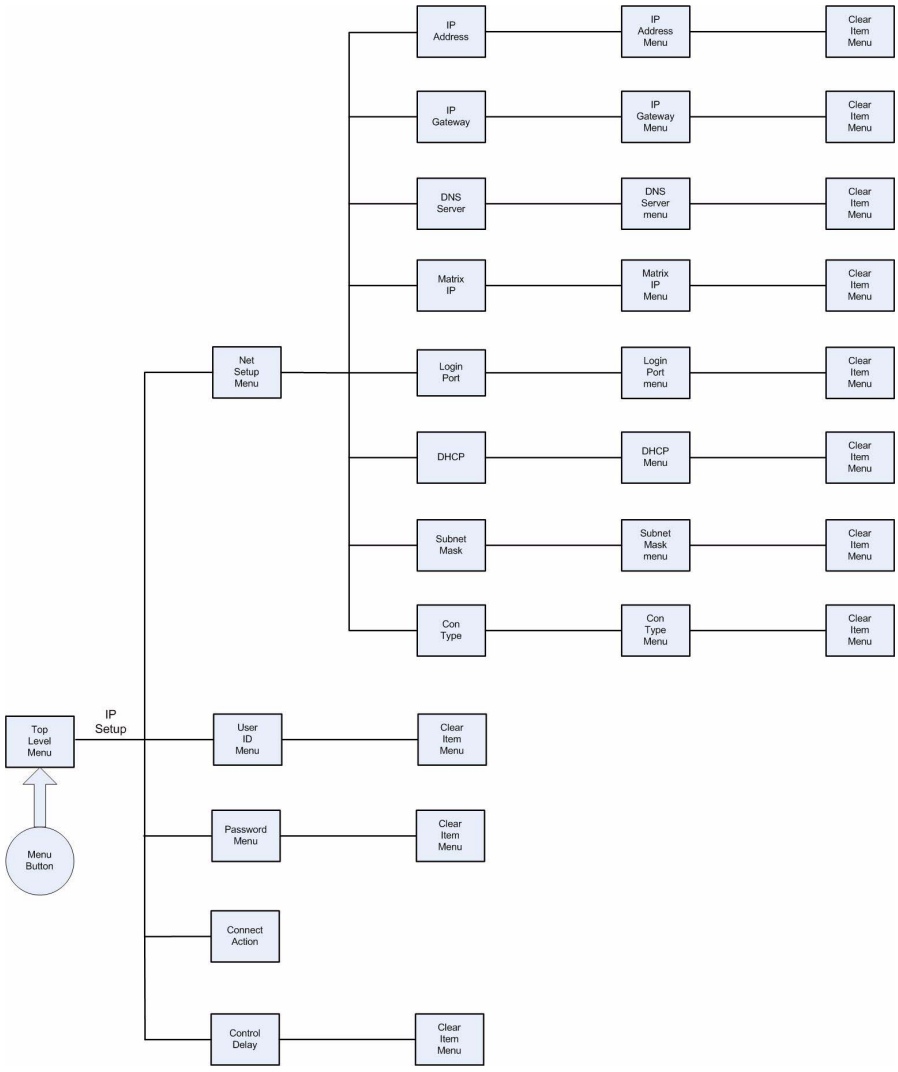

Figure 3-35: IP Menu Structure

4 INSTALLATION

INTRODUCTION

This chapter describes the installation of the V Series panels, including:

- Panel placement
- Wiring
- Mains AC power
- Adjustments
- Configuration
- Accessory panels

MOUNTING PANELS

RACK MOUNT PANELS

Leave sufficient clearance behind the rack mount panel to accommodate the external power supply if it is to be fitted to the back of the panel using the clips provided.

Locate all panels at comfortable heights for operation and leave at least 2 inches (51 mm) of clearance behind the rear of the panel's chassis to allow for cable connectors.

Expansion panels that are intended to expand or enhance main panel operation are usually mounted next to or near the panel with which they are associated. Leave at least 2 inches (51 mm) of clearance behind the rear of the panel to allow for cable connectors.

Expansion panels can be connected to the main panel in a daisy chain using cables not more than 16 ft (5 m) long between each panel. The cable length of any daisy chain of panels must not exceed 24 ft (7.5 m) in total.

The expansion panels should be connected using straight through 8-way shielded CAT5 cable with RJ45 connectors.

DESKTOP PANELS

Desktop panels can be placed on a flat surface or they may be used as wall mounted panels. Where desktop panels are placed on a flat surface leave at least 2 inches (51 mm) of clearance behind the rear of the panel to allow for cable connectors.

In order to wall mount a desktop panel carry out the following steps:

1. Locate the panel fixing kit provided with the desktop panel. The contents of the kit are shown in Figure 4-1.

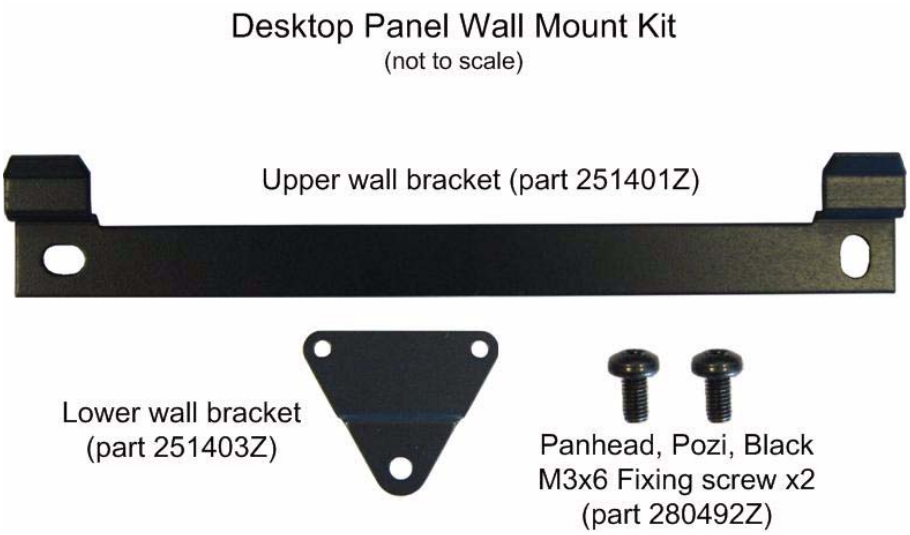

Figure 4-1: Desktop Wall Mount Kit

2. The panel front must be rotated when the desktop panel is wall mounted so that the controls and display face upwards. To do this remove the eight countersunk screws holding the front of the panel on. The countersunk screws are located on the ends of the panel, four on each end (Figure 4-2).

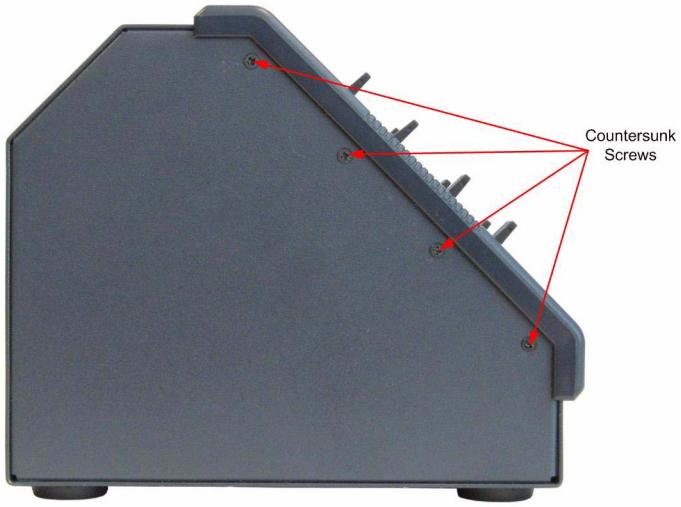

Figure 4-2: Desktop Panel Retaining Screws

3. Remove and retain all the screws and remove the front panel assembly. The cables connecting the front panel electronics to the main PCB are long enough to allow the panel front to be removed and rotated without having to unplug any of the cables.
4. Rotate the front panel 180 degrees taking care not to pull on any of the cables and reposition it . Ensure that no cables are trapped before refitting the screws. Apply pressure to the panel front to align the screw holes and fit the top and bottom screws loosely on each side before fitting the remaining screws and tightening all the

screws. When completed the front panel will be upside down when the panel is standing on a flat surface (Figure 4-3).

Figure 4-3: Desktop Panel with Refitted Display

5. Attach the upper wall bracket to the wall in the required position using suitable fixings. Allow enough clearance below for the panel for the lower fixing plate and the cable connections.

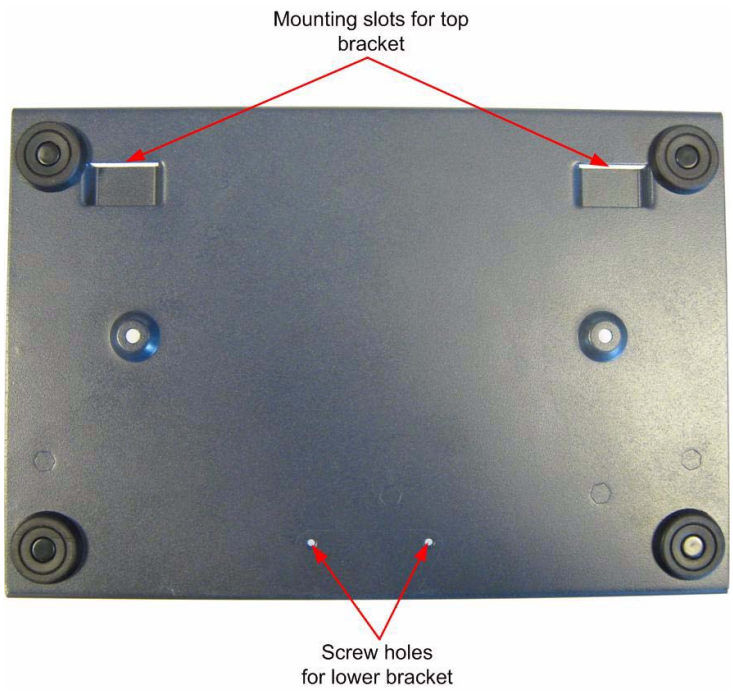

Figure 4-4: Desktop Casing Without Lower Bracket

6. Use the two fixing screws to attach the lower wall bracket to the rear of the desktop panel so that the offset part of the plate faces away from the panel body.

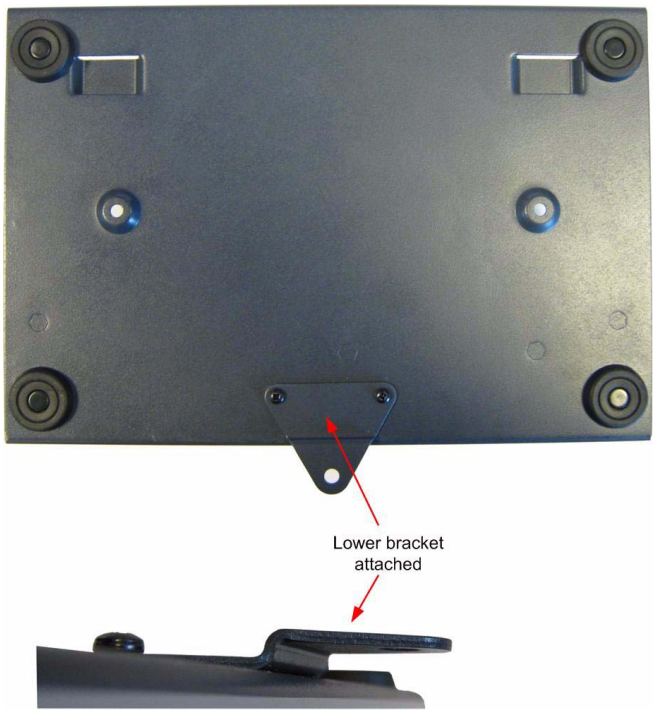

Figure 4-5: Desktop with Lower Bracket Fitted

7. Hang the panel on the upper wall bracket and mark the position of the screw hole for the lower bracket on the wall. Remove the panel and place a suitable fixing for the lower wall bracket.
8. Replace the panel on the upper bracket and attach the lower wall bracket to the fixing. Attach the cables to the connectors and power the panel up.

WIRING

This section provides detailed wiring diagrams for all the V series panel wiring systems.

Eclipse uses shielded CAT5 cable between the panel and the frame and between panels and expansion panels using the industry standard RJ-45 connector. Refer to the Eclipse Matrix Instruction Manual (part 810298Z) for RJ-45 connector installation and use, and the type of cable needed for connection between panels and frames and between panels and expansion panels.

V Series panels also provide a LAN connection using the industry standard RJ-45 connector. Connection to the LAN port should be via a CAT5 crossover cable if the connection is directly to a PC or a straight through CAT5 cable if a hub or switch is being used.

Connections to external devices are via the GPIO connector using the DB-25F connector and the auxiliary audio connector using the DB-25M connector.

The external panel power supply is normally held in a mounting bracket on the rear of the panel. If required the power supply may be situated away from the panel and the power supply mounting bracket removed from the panel in order to save space.

The following sections describe connecting the panel to the matrix frame, all the connections between the panels and local devices and connections between panels and expansion panels. Each of the following sections describes cable and panel connector wiring:

- Mains power cord
- Power connector
- Digital matrix frame to panel wiring
- Panel to GPIO connector wiring
- Panel to Auxiliary Audio I/O wiring
- AES-3 digital option to AES-6 interface wiring
- T-Adapter digital option to DIG-2/DIF-102 interface wiring
- Expansion panel wiring
- LAN connector wiring

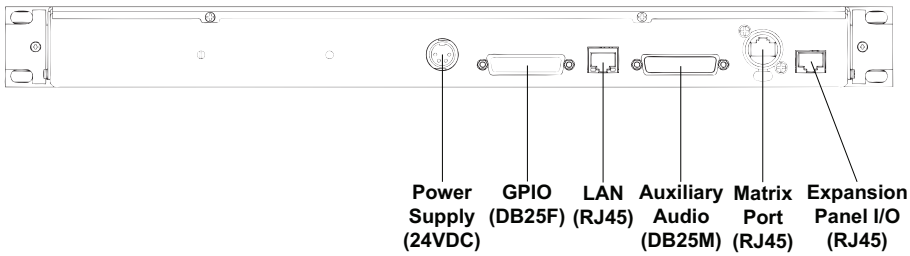

Figure 4-6: V Series Main Panel Rear Connectors (no AES-3 or T-Adapter)

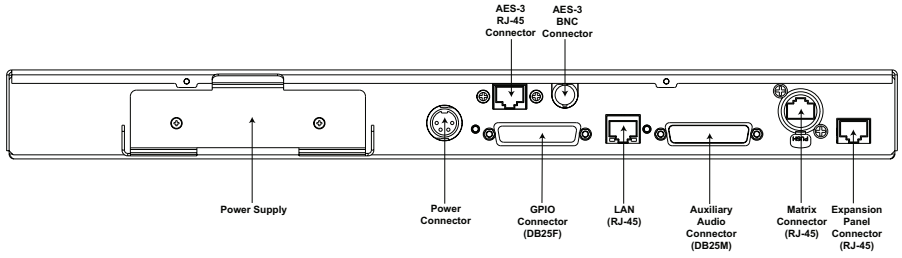

Figure 4-7: V Series Main Panel Rear Connectors (AES-3)

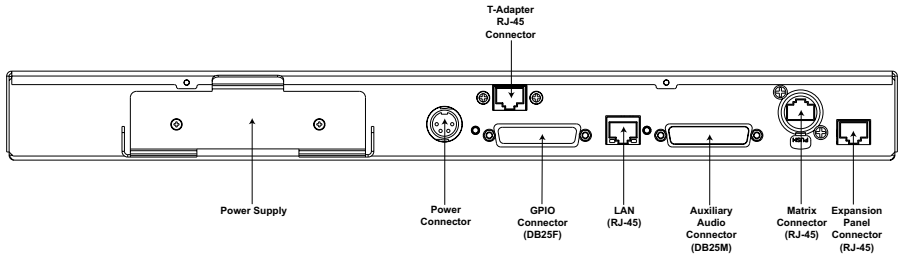

Figure 4-8: V-Series Main Panel Rear Connectors (T-Adapter)

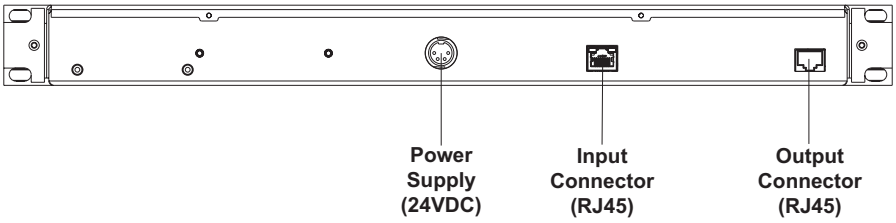

Figure 4-9: V Series Expansion Panel Rear Connectors

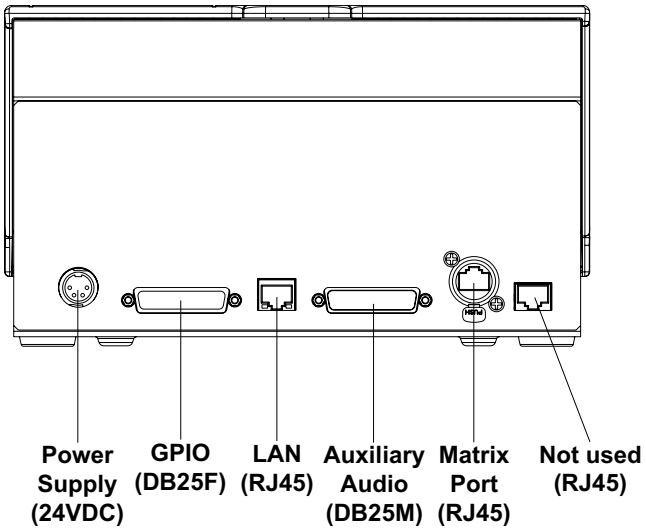

Figure 4-10: V-Series Desktop Panel Rear Connectors (no AES-3 or T-Adapter)

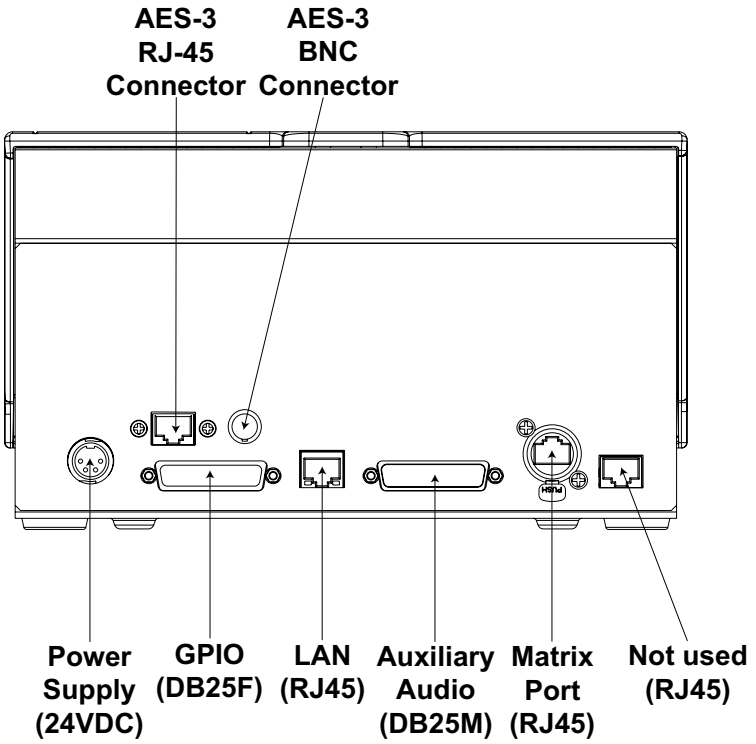

Figure 4-11: V Series Desktop Panel Rear Connectors (AES-3)

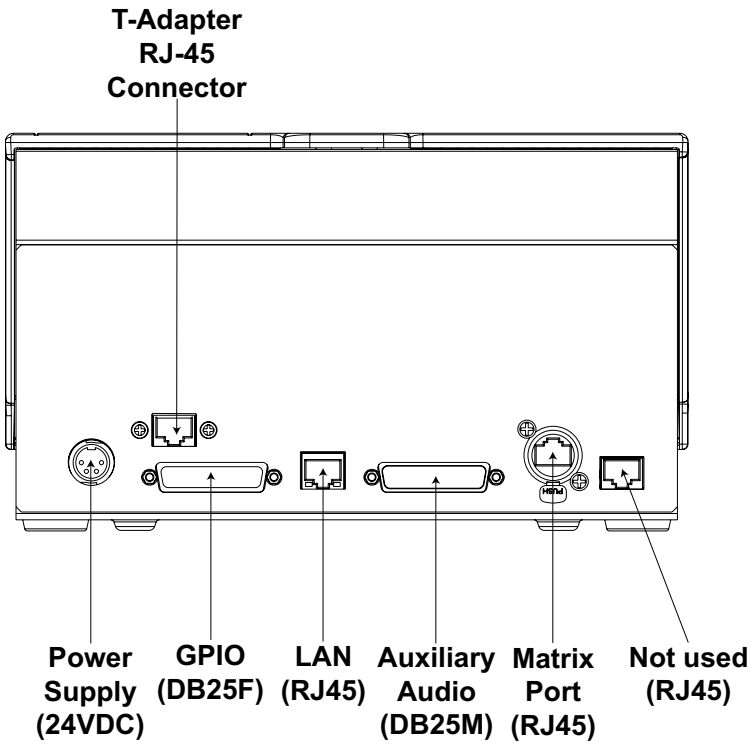

Figure 4-12: V Series Desktop Panel Rear Connectors (T-Adapter)

MAINS POWER CORD

The V-Series panels are powered by an external power supply which may be mounted in a clip on the back of the panel or located away from the panel. If the power supply is not mounted in the clip on the rear of the panel the clip can be detached to save space by removing the two mounting screws.

The cord to connect the external power supply to the mains supply must conform to the following:

- **The mains power cord shall have an IEC C13 connector at one end and a mains power plug at the other end.**
- **An IEC C13 plug has three pins, the centre pin carrying the earth / ground. The other two pins carry neutral and live circuits.**
- **The conductors of the mains cords shall have adequate cross-sectional area for rated current consumption of the equipment.**
- **The mains plug that connects to the mains supply must be approved for use in the country where the equipment is to be used.**
- **The mains power cord must be an IEC mains power cord complying with standard IEC60320; IEC320/C13.**
- **Mains power cords used in the U.S. must also comply with standard UL817.**
- **The equipment must be connected to a mains socket outlet with a protective earthing connection.**
- **Where the mains plug or an appliance coupler is used as the disconnect device, the disconnect device shall remain readily operable.**

POWER CONNECTOR WIRING

The power supply is a 4 pin socket which is connected to an external 24V power supply. The pinout for the connector is shown below.

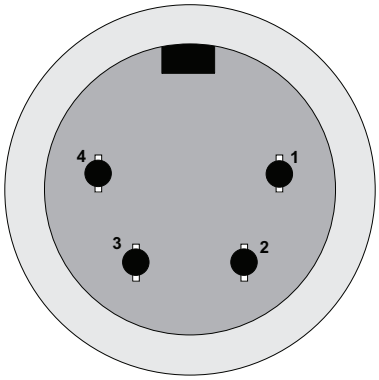

Figure 4-13: Power Supply Socket

POWER CONNECTOR PINOUT

Pin	Description
1	Not connected
2	24VDC
3	Not connected
4	0V

ANALOG MATRIX FRAME TO PANEL WIRING

The analog audio RS-422 data communications module uses a 4-pair wiring scheme between the frame and panels. This module requires an MVX-A16 card in the frame.

Four-pair analog wiring is wired with shielded CAT5 RJ-45 cable.

- Pair 1 transmits analog audio from the matrix port to the panel.
- Pair 2 transmits RS-422 data from the panel back to the matrix card port.
- Pair 3 transmits analog audio from the panel to the matrix card port.
- Pair 4 transmits RS-422 data from the matrix port back to the panel.

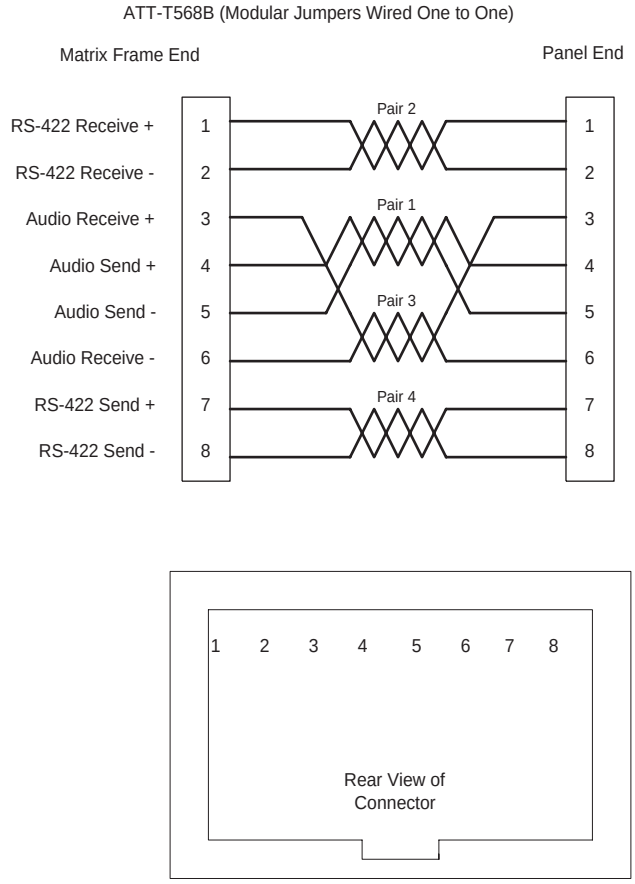

Figure 4-14: Matrix Frame to Panel Wiring

MATRIX PANEL GPIO CONNECTOR WIRING

Most input/output devices (other than the matrix, expansion panels and auxiliary audio devices) are connected to the panel via the GPIO connector.

The following sections discuss how to wire the various functions available on the GPIO connector.

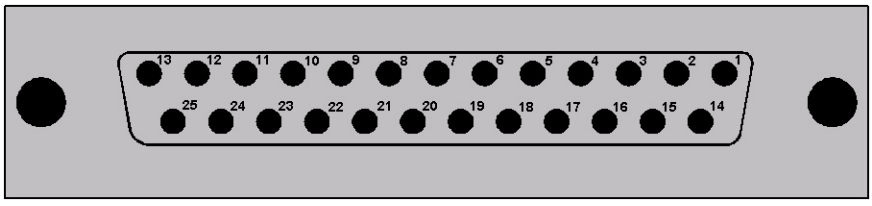

Figure 4-15: GPIO Connector Pinout

GPIO CONNECTOR PINOUT

Pin	Description	Pin	Description
1	Panel Mute relay output Normally Closed	14	Panel Mute output relay Common
2	Panel Mute relay output Normally Open	15	Panel Aux output relay Normally Closed
3	Panel Aux output relay Common	16	Panel Aux output relay Normally Open
4	not connected	17	not connected
5	not connected	18	not connected
6	not connected	19	not connected
7	not connected	20	5V
8	0V	21	5V
9	0V	22	Opto-isolated input A1
10	Opto-isolated input B1	23	Opto-isolated input A2
11	Opto-isolated input B2	24	Opto-isolated input A3
12	Opto-isolated input B3	25	Opto-isolated input A4
13	Opto-isolated input B4		

The relay 1 and 2 outputs on the GPIO connector are referred to in ECS Controls as “Panel AUX relays” and “Panel mute relays”. The relay naming between ECS and the GPIO pinout is:

Relay 1 - Panel mute relay
Relay 2 - Panel AUX relay

Programmable Relay Contacts

Each panel includes two relays controlled by the matrix and independent of the local panel function. These relays can be assigned to any label(s) in the system, which will activate whenever a talk or listen is set to that label(s). If activating a relay is the only action desired, assign the relay to a Control label. See the *Eclipse Configuration Software Manual* for more details.

The relay can activate an external device, such as an applause light in a studio, a cue light, or a security door lock. Any programmable relay in the system can be activated from any panel in the system, including a direct-inward-access caller. Figure 4-15 on page 4-10 shows the wiring of the relay contacts to the GPIO connector.

Both normally open and normally closed contacts are provided. They are rated at 1 Amp at 24 V DC. This relay is not designed for switching mains AC line voltage. To switch an external device running on mains AC line voltage, use an external relay (or other switching mechanism) activated by this relay.

Opto-Isolated Inputs

Each main panel provides four opto-isolated inputs using the GPIO interface. Each input consists of a pair of pins on the GPIO designated An and Bn in the GPIO pinout table and has an operating range of 4V to 30V DC or AC. These inputs can be used for user programmable functions set up by ECS to execute other actions within the system such as switching a microphone on or off.

Input 3 (pins A3/B3) is preassigned in ECS to trigger the Reply Key function while inputs 1 and 2 (pins A1/B1 and A2/B2) are available for assignment in ECS via the Logic Inputs menu under Advanced Settings. Input 4 (pins A4/B4) is not currently used.

The inputs are operated by applying a voltage between 4V and 30V DC or AC across the pins so that a current flows through the circuit and is detected by the opto-coupler. The voltage may be derived from the panel itself using the 5V and 0V pins on the GPIO or it may be from an external source. An example is a circuit using a footswitch to activate the panel microphone using logic input 1.

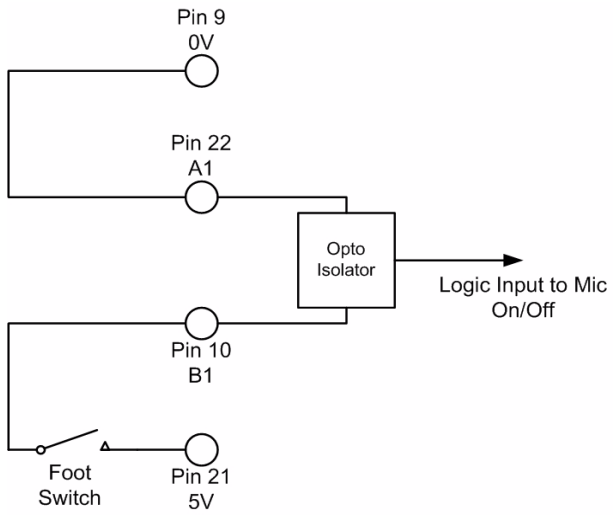

Figure 4-16: Example of Wiring to Use a Logic Input

In the example when the footswitch is operated 5VDC derived from the panel will be applied between B1 and A1 causing a logic input to be detected. If logic input 1 has been configured in ECS to activate the Mic On/Off function the footswitch could be used to control the panel microphone.

AUXILIARY AUDIO CONNECTOR

The auxiliary audio connector allows additional audio inputs and outputs to be connected to the panel.

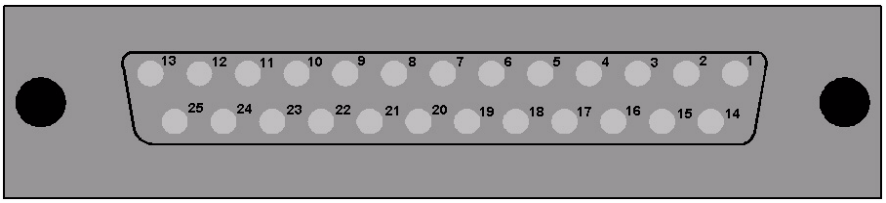

Figure 4-17: Auxiliary Audio Connector

AUXILIARY CONNECTOR PINOUT

Pin	Description	Pin	Description
1	Headset 2 MIC +ve	14	Headset 2 MIC -ve
2	Headset 2 Left Ear	15	Headset 2 Left Ear Ground
3	Headset 2 Right Ear	16	Headset 2 Right Ear Ground
4	Headset 2 PTT 1	17	Headset 2 PTT 2
5	0V	18	0V
6	0V	19	0V
7	External Output 2 +ve	20	External Output 2 -ve
8	External Output 1 +ve	21	External Output 1 -ve
9	Hot MIC Output +ve	22	Hot MIC Output -ve
10	Auxiliary Loudspeaker Output +ve	23	Auxiliary Loudspeaker Output -ve
11	External Input 2 +ve	24	External Input 2 -ve
12	External Input 1 +ve	25	External Input 1 -ve
13	0V		

Note: When wiring headset 2 to use the auxiliary audio connector it is advisable to use good quality headphone cable to avoid pickup of electronic noise by the microphone connection.

In order to use the Headset 2 PTTs (pins 4 and 17) they should be wired so that PTT connects the pin to ground.

The auxiliary loudspeaker output is at line levels and auxiliary loudspeakers cannot be connected directly. Auxiliary loudspeakers must be driven through a suitable audio amplifier. The line output levels are given in the product specifications.

AES-3 OPTION TO AES-6 INTERFACE

The AES-3 option module adds digital input and output via RJ-45 or coax to V-Series main panels. If the AES-3 digital interface option is used to connect the V-Series main panel to the matrix it must be connected to an AES-6 Digital Interface instead of the MVX-16 serial ports on the matrix. For information on the AES-6 digital interface please refer to the AES-6 manual part no. 810383Z.

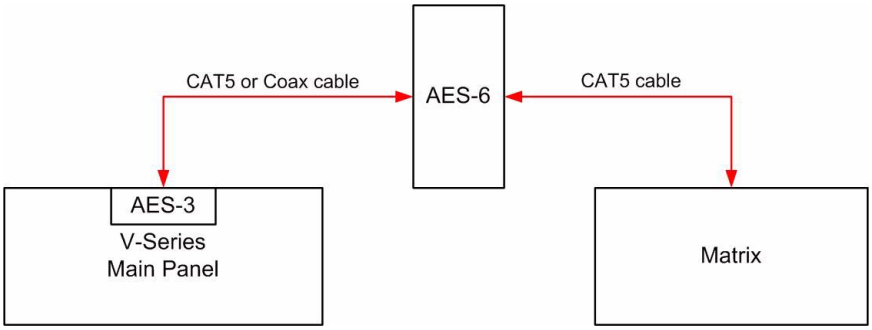

Figure 4-18: V-Series Panel with AES-3 Interface

The pinout for the CAT5 cable to connect an AES-6-RJ to a V-Series panel AES-3 interface is given in the table below.

PIN NUMBER	WIRE COLOR	FUNCTION
1	White/Orange	not used
2	Orange	not used
3	White/Green	Rx (+)
4	Blue	Tx (+)
5	White/Blue	Tx (-)
6	Green	Rx (-)
7	White/Brown	not used
8	Brown	not used

Table 4-1: AES-6 to Panel Wiring

The AES-3 interface RJ45 connection is capable of operation with up to 200m of screened Cat5e cabling of 110 ohm +/- 10 ohm impedance, with 24 AWG cores. If 26AWG or smaller cable is used the maximum cable run may be severely reduced.

The specification for the coaxial cable required to connect V-Series panels AES-3 interfaces to an AES-6-CX card is given below.

Nominal impedance	75 Ohm
Insulation	solid polyethylene
Screen	double braided copper
Capacitance	68pF/m or better
Equivalents	BBC PSF 1/3M BICC TM 3304 Brand Rex GT 851

Table 4-2: Coaxial Cable Specification

This type of cable will allow up to 500 metres of cable run between the AES-6-CX interface and the panel at the standard 48K sample rate.

Note: A ferrite must be added to the socket end of each cable. A suitable ferrite is Würth Electronik part: 74271132 (ClearCom part 180028Z).

If the AES-3 option/AES-6 interface is used to connect the V-Series panel via a 3rd-party AES-3 network the system setup is as shown in

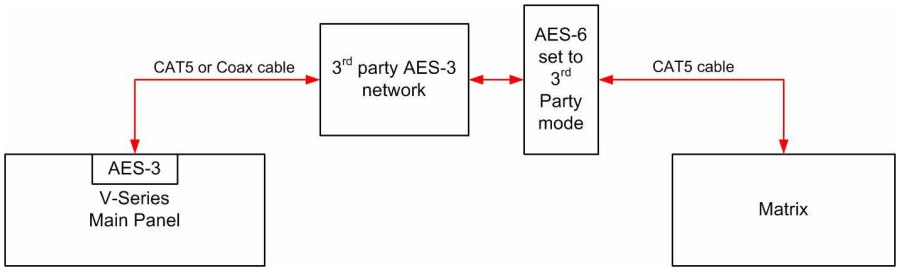

Figure 4-19: V-Series Panel Connected by 3rd Party Network

The cable specifications are as stated previously unless the connections to the 3rd party network require different cable specifications. In this case the customer should contact Clear-Com for advice.

T-ADAPTER OPTION TO DIG-2/DIF-102 INTERFACE

The T-Adapter option module adds 2-wire digital input and output via RJ-45 to V-Series main panels. If the T-Adapter digital interface option is used to connect the V-Series main panel to the matrix it must be connected via a DIG-2 Digital Interface instead of directly to an MVX-16 analog port on the matrix. For information on the DIG-2/DIF-102 digital interface please refer to the DIG-2 manual part no. 810311Z and the Interface Module Frames manual part no. 810313Z.

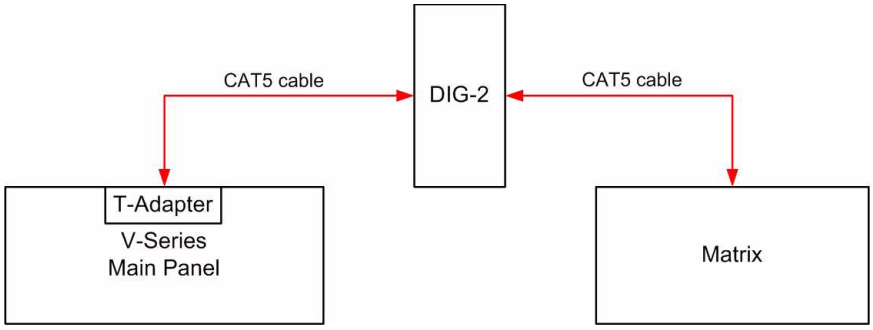

Figure 4-20: V-Series Panel with T-Adapter Interface

The pinout for the CAT5 cable to connect a DIG-2 interface to a V-Series panel T-Adapter interface is given in the table below.

PIN NUMBER	WIRE COLOR	FUNCTION
1	White/Orange	not used
2	Orange	not used
3	White/Green	not used
4	Blue	Tx/Rx (+)
5	White/Blue	Tx/Rx (-)
6	Green	not used
7	White/Brown	not used
8	Brown	not used

Table 4-3: DIG-2 to Panel T-Adapter Wiring

The T-Adapter interface RJ45 connection is capable of operation with up to 3000m (10,000ft) of screened 24 AWG Cat5e cabling of 110 ohm +/- 10 ohm impedance If 26 AWG screened CAT5e cable is used the maximum cable run is reduced to 2,200m (7,300ft).

Note: A ferrite must be added to the socket end of each cable. A suitable ferrite is Würth Electronik part: 74271132 (ClearCom part 180028Z).

LAN CONNECTOR

The LAN connection is an industry standard RJ45 socket that allows the panel to be connected to a network or the ethernet port of a PC.

PIN	FUNCTION
1	Transmit data +
2	Transmit data –
3	Receive data +
4	Unused
5	Unused
6	Receive data –
7	Unused
8	Unused

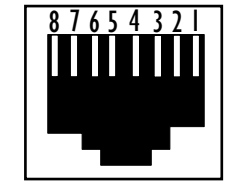

Figure 4-21: LAN Connector Pinout

The LAN connection is reserved for panel firmware upgrades and future use.

EXPANSION PANEL OUTPUT

V Series main panels have an industry standard RJ45 socket allowing up to eight V Series expansion panels to be daisy chained from it.

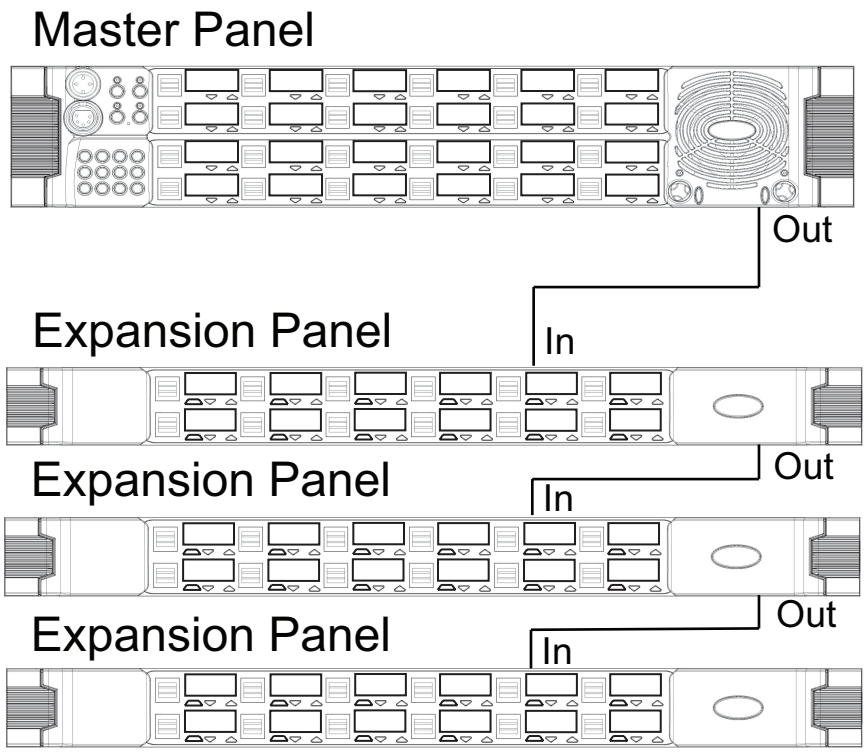

Figure 4-22: Example of Daisy Chained Panels

The pinout for the expansion panel cable connector is given below.

PIN	FUNCTION
1	Expansion panel detect
2	Expansion panel detect
3	0V
4	Chain length detect
5	Expansion address assign
6	Unused
7	0V
8	Expansion reset

Expansion Port
Ethernet RJ-45 Connector

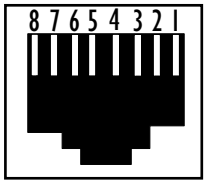

Figure 4-23: Expansion Panel Connector Pinout

The CAT5 cables used to connect V Series main panels to expansion panels and expansion panels to further expansion panels are wired as

straight through and the same signals are present along the daisy chain.

Each cable connecting a V Series main panel to an expansion panel or an expansion panel to another expansion panel must not exceed 5 metres in length, and the total length of any expansion panel daisy chain must not exceed 7.5metres in length.

Note: If power is removed from an expansion panel within a chain that panel and all expansion panels after it in the chain will no longer work.

FRONT PANEL CONNECTORS

The V-Series main panels have a microphone connection and a headset connection on the front. The microphone connection is always a three pin socket while the headset connector may be an XLR-4M, XLR-5F or XLR-7M connector. The pinouts for the connectors are given below.

MICROPHONE CONNECTOR

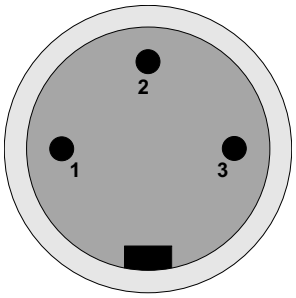

Figure 4-24: Microphone Connector Pinout

The pin assignments for the microphone connector are:

Table 4-4: Microphone Socket Pinout

Pin	Description
1	Screen
2	Microphone input +
3	Microphone input -

Warning: *Configuration of the wrong type of microphone or headset will degrade or nullify the audio from the panel or worse still, damage the microphone or headset.*

HEADSET CONNECTORS

The headset connector may be one of three types; XLR-4M, XLR-5F or XLR-7M. The pinouts for each type are shown below.

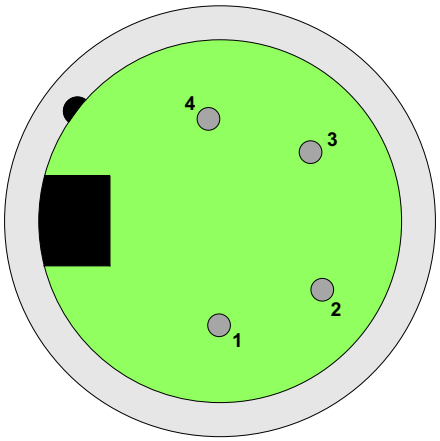

Figure 4-25: XLR-4M Headset Connector

Table 4-5: XLR-4M Headset Connector Pinout

Pin	Description
1	Microphone Screen
2	Microphone Input
3	Headphone Return
4	Headphone Output

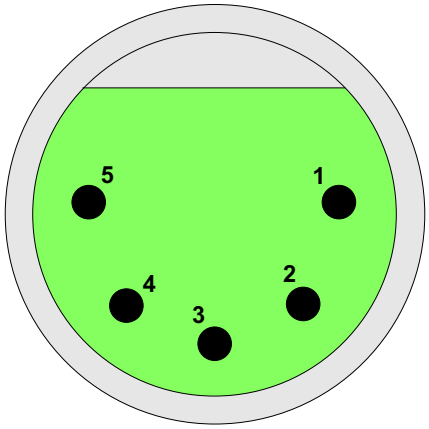

Figure 4-26: XLR-5F Headset Connector

Table 4-6: XLR-5F Headset Connector Pinout

Pin	Description
1	Microphone Screen
2	Microphone Input
3	Headphone Return
4	Left Headphone Output
5	Right Headphone Output

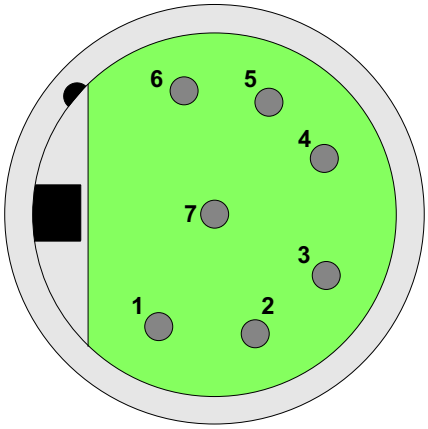

Figure 4-27: XLR-7M Headset Connector

Table 4-7: XLR-7M Headset Connector Pinout

Pin	Description
1	Microphone -ve
2	Microphone +ve
3	Ground
4	Left Headphone Output
5	Right Headphone Output
6	PTT1
7	PTT2

Warning: *Configuration of the wrong type of microphone or headset will degrade or nullify the audio from the panel or worse still, damage the microphone or headset.*

The PTT1 and PTT2 functions on an XLR-7 headset or a second headset connected via the auxiliary audio connector are connected to the logic 1 and logic 2 inputs. Headset 1 PTT 1 or headset 2 PTT 1 active will have the same effect as Logic 1 active. Headset 1 PTT 2 or headset 2 PTT 2 active will have the same effect as Logic 2 active.

PTT is activated by grounding the PTT line.

MAINS AC POWER

The panel has a separate, external DC power supply. The power supply is "universal," operating over a voltage range of 100 to 240 VAC and 50 to 60 Hz. The maximum power dissipation is 50 W.

A bracket has been provided to mount this external supply if necessary.

ADJUSTMENTS

The following panel parameters are adjustable by selecting options in the configuration program (ECS):

- Panel Headset Microphone Gain
- Headset 2 Microphone Gain
- Panel Microphone Gain
- Input Volume
- Output Volume
- Aux Volume Off Limit
- Main Volume Off Limit
- Speaker Dim
- Page Volume Level
- Headset Detect Loudspeaker Cut

All these parameters are set to factory defaults. Most panels should operate at these default settings; however, some applications may required adjustment.

HEADSET SIDETONE

Sidetone is the sound of the user's voice in his headset.

Refer to the *Eclipse Configuration Software Instruction Manual* for instructions on adjusting sidetone.

HEADSET AUTO DETECT

V-Series panels can auto detect headsets 1 and 2 and automatically enable them. Headset auto detect can be set to enabled or disabled via a DIP switch (SW2) on the main board. As headset insertion can cause a noise on the panel some users may wish to disable automatic headset detect and use the front panel button instead to enable and disable the headsets.

To access the DIP switch the rear cover must be removed from the panel. The DIP switch is located on the right hand edge of the main PCB (looking from the rear) behind the headset connector (see Figure 4-28).

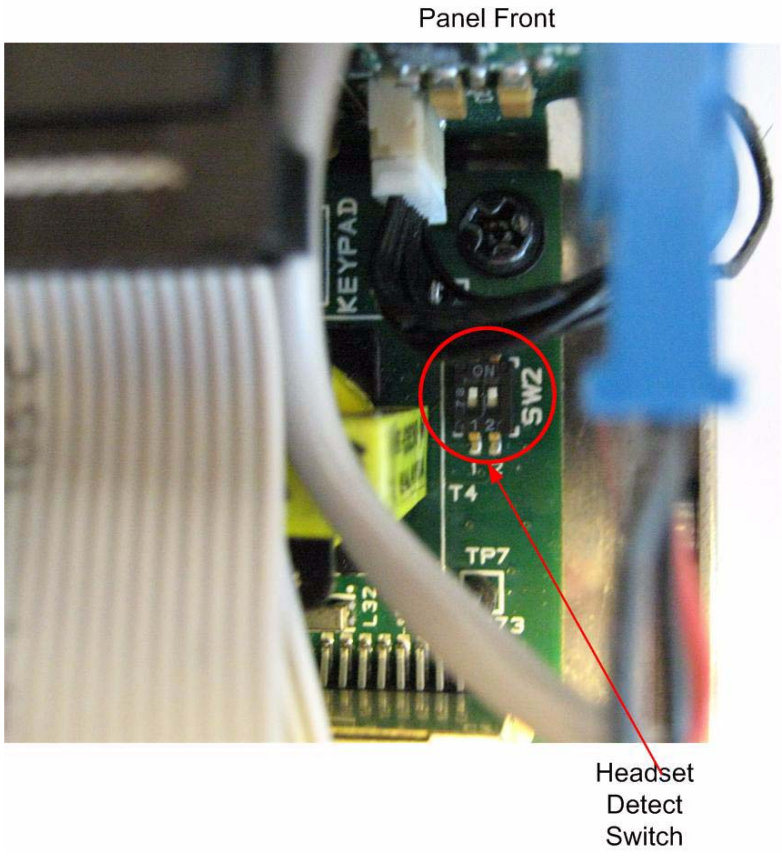

Figure 4-28: Headset Detect Switch Location

Headset 1 auto detect is controlled by switch 1 on SW2 and headset 2 auto detect is controlled by switch 2 on SW2 (see Figure 4-29).

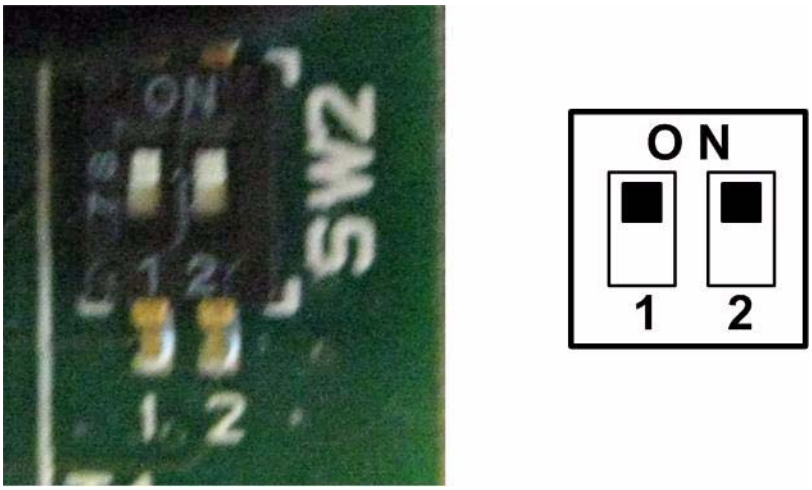

Figure 4-29: Headset Detect DIP Switch Settings

To enable headset auto detect for a headset set the appropriate switch to “ON” (towards the front of the panel). To disable headset auto detect set the appropriate switch to “OFF” (towards the rear of the panel).

PANEL MICROPHONE GAIN

The preamplifier gain of the panel microphone can be adjusted over a range of +20 to +70 dB; the panel microphone gain’s default setting is 50 dB. However, if two panels are talking to each other at the same time with the panel microphone gain set to maximum, feedback may occur even if the speaker dim (see “Speaker Dim”) is set to maximum in ECS. In this case, it will be necessary to turn the panel microphone gain down. Similarly, in some noisy environments it may be necessary to turn the panel microphone gain down and have the operator talk more closely into the microphone.

Refer to the *Eclipse Configuration Software Instruction Manual* for instructions on adjusting panel microphone gain.

SPEAKER DIM

When a panel microphone and a speaker are used together, feedback is possible. To reduce this possibility, the panel software will mute (turn down) the speaker level by some predetermined amount when both the microphone and speaker are enabled. The speaker mute can be adjusted from 0 to 15 dB; its default setting is 6 dB.

Refer to the *Eclipse Configuration Software Instruction Manual* for instructions on muting the speaker.

PAGE VOLUME LEVEL

When Page Override is assigned to a label, the audio level at the destination panel(s) is predetermined. This function allows talking to someone even if his panel volume control is off. Two things will happen when a panel activates such a label:

- If the destination speaker was off, it will turn on.
- The panel speaker output will be at the predetermined level regardless of the “Intercom” volume control setting, unless this control is set higher than the predetermined level.

The page volume level can be adjusted from 0 to 10 in steps of 1 with 0 being off and 10 being full volume. The page volume level’s default setting is 5.

Refer to the *Eclipse Configuration Software Instruction Manual* for further instructions on using Page Override.

PANEL-TO-MATRIX CARD BAUD RATE

The RS-422 serial data communication between a panel and other devices operates at 19.2 k baud by default.

CONFIGURATION

Assign each panel name and other parameters by using the Eclipse Configuration Software Program (see *Eclipse Configuration Software Manual* for more information). Also refer to the Operation chapter for details regarding the configuration options available from the V-Series panel menus.

EXPANSION PANELS

The following sections describes how to install the following optional, accessory key panels:

- The V12LDE Lever Key Expansion Panel adds 12 lever key talk/listen selectors to a panel.
- The V12PDE Pushbutton Expansion Panel adds 12 pushbutton talk/listen selectors to a panel.
- The V12RDE Rotary Expansion Panel adds 12 rotary talk/listen selectors to a panel.

The installation procedure is identical for these two panels.

Note: Expansion panel types (lever key, pushbutton or rotary) may not be mixed in a daisy chain of such panels and must be connected to a main panel of the same type.

V SERIES EXPANSION PANELS

Only one rack unit (1RU) of a standard Electronics Industry Association equipment rack is required for each expansion panel. The panels' compact size makes them ideal for use in TV control rooms, edit suites, mobile OB vans, and any other location where many talk/listen keys are necessary but space it at a premium.

All panels provide 12 additional selectors with displays.

MOUNTING

All accessory panels are mounted in a standard 19-inch wide (48.3 cm) standard Electronics Industry Association rack, requiring one unit of rack space each. Leave at least 2 in. (51 mm) of clearance behind the rear of the chassis to allow for cable connectors.

POWER

Each expansion panel is powered by an external power supply which may be mounted on the back of the panel using the mounting clip provided. To connect the power supply to an expansion panel, route the transformer's output lead to the power connector on the back of the panel. This is a 4 pin connector.

PANEL CONNECTION

A cable is supplied with each panel to connect it to a main panel or to additional expansion panels. The cable is a 6-ft. long (1.8 m) CAT5 cable with RJ45 connectors at each end. If custom length cables are to be made, they should be made with cable with 22 to 24 AWG wire. The pins should be wired one-to-one between the RJ45 connectors. The maximum distance between the panel and the last expansion panel should be 25 ft. (7.6 m).

To connect an expansion panel to a main panel:

1. Plug one end of the CAT5 cable into the RJ45 expansion socket on the back of the main panel.
2. Plug the other end of the CAT5 cable into the input connector on the back of the expansion panel.

To connect an additional accessory panel:

1. Plug the CAT5 cable into the output connector of the last expansion panel in the chain.
2. Plug the other end of the CAT5 cable into the input connector of the new expansion panel. More panels can be added by using this "daisy-chaining" method.

The numbering of expansion selectors will be in the order of the daisy chaining.

PANEL CONFIGURATION

After physically placing the expansion panels and connecting them to a main panel, the expansion panels must be programmed into the configuration program. Refer to the *Eclipse Configuration Software Instruction Manual (part 810299Z)* for more information.

5 V-SERIES LOCAL MAINTENANCE MENU

The V-series Local Maintenance (LMM) menu is primary intended as a diagnostic aid for users and support engineers. The menu is read-only and allows internal panel settings to be obtained.

MENU ACCESS

For V-Series panel releases prior to release 1.21 that support the LMM press the “menu” button to enter menu mode, then press and hold the menu button again for about 7 seconds to enter the LMM when the rack is connected. The LMM is also accessible when the rack is not connected; to do access the LMM press and hold the menu button for about 7 seconds to enter the LMM.

For V-series panel releases after 1.21 press the ‘Menu’ button and then press the ‘Info’ knob to display the LMM.

V-Series panels from Eclipse Release V5.1 onwards have an additional menu level and it is this menu level that is displayed rather than the LMM.

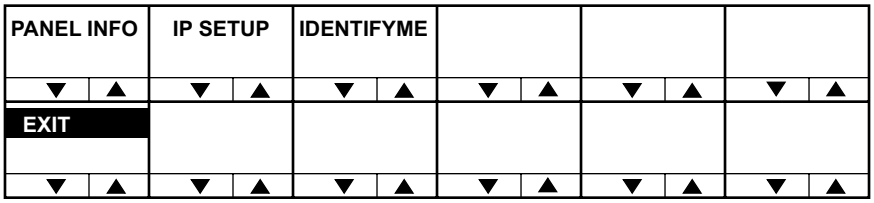

Figure 5-1: Rack Mount Panel IP Setup Using Maintenance Mode

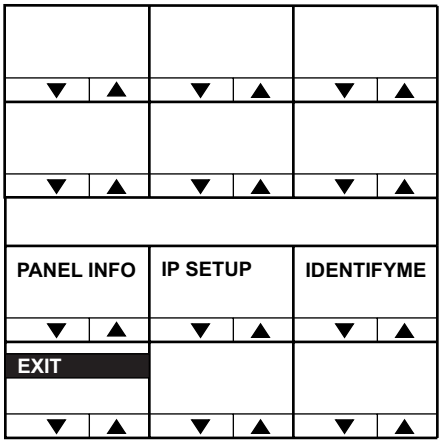

Figure 5-2: Desktop Panel IP Setup Using Maintenance Mode

Select ‘PANEL INFO’ to enter the maintenance menus.

To exit the LMM press any of the buttons on the display which is showing “Exit Local” (normally window 6).

MENU NAVIGATION

To change the commands and values use the “volume up” and “volume down” buttons under the display, or the “talk” or “listen” lever keys associated with the display. On a pushbutton panel the pushbutton can also be used to scroll forwards through commands and the “volume up” button to scroll back through the commands or values. In the case of rotary panels pressing the rotary encoder will step forward through the commands and values. Pressing the talk button will step back through commands and values.

Some commands have a numerical value; when this is the case the numerical value of the command may be changed using either the “main” or “aux” volume knob.

Some commands are “action” commands. In this case one of the displays will show “DO IT”.

Pressing any key on this display will action the command and the display will change to “DONE”.

USE OF DISPLAYS

The first panel display module is always used as shown for the various panel types.

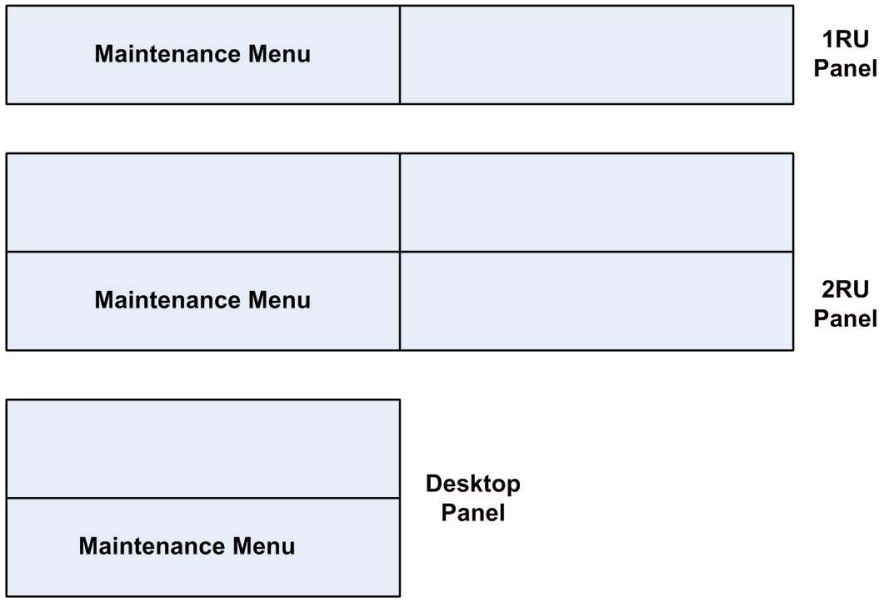

Figure 5-3: Position of Maintenance Menu on Panels

The display items are numbered as shown below:

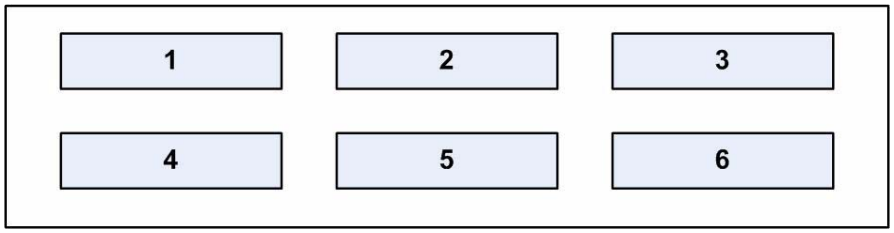

Figure 5-4: Layout of Maintenance Menu

The main command appears in display 1. Displays 2-5 may show sub types or parameters for that command.

Display 6 will always show “Exit Local”

COMMANDS AVAILABLE

The command always appears in window 1 and to scroll through the commands use the volume up/down buttons (lever key and pushbutton panels) under the command window. On rotary panels use the rotary encoder and the talk button.

The available commands are described below.

version

This shows the versions of various components of the system. Display 2 shows the component and may be adjusted. Display 3 shows the version of that component. The versions are not adjustable.

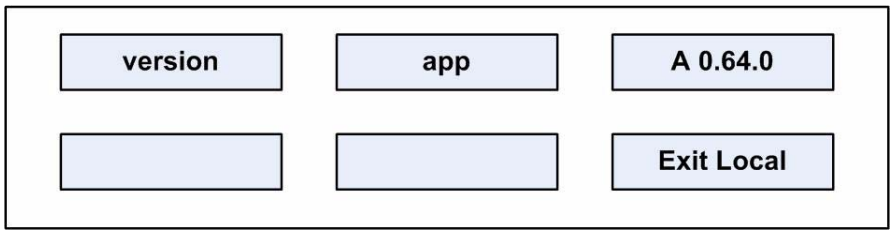

Figure 5-5: Version Display

Press the volume up/down keys (lever key and pushbutton panels) under the ’app’ display to scroll through the panel software components. On rotary panels use the rotary encoder and the talk button to scroll through software components.

Current components shown in window 2 are:

- app - the panel application version
- kernel - the µlinux kernel version
- rootfs(v) - the version of the kernel root file system
- rootfs(d) - the date of the kernel root file system

- modules - the version of the module firmware and bootloader
- sound - the version of the sound drivers

xpoint

The Xpoint command allows the values of the crosspoints in the panel's audio mixer to be adjusted. Display 2 displays the output audio stream. Display 3 shows the input audio stream. Display 4 shows the value of the crosspoint in dB. A value of -80 signifies no audio, and a value of 0 signifies "all on".

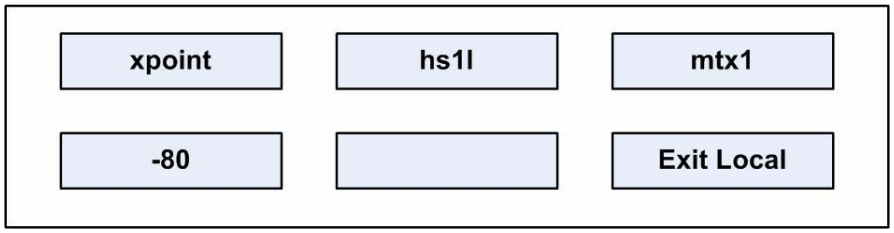

Figure 5-6: Crosspoint Setting Display

The output streams displayed in window 2 can be scrolled through using the up/down volume keys under window 2 (lever key and pushbutton panels). On rotary panels use the rotary encoder and talk button to scroll through the output streams. The output audio stream crosspoint options are:

- hs1l - headset 1 left ear
- hs1r - headset 1 right ear
- hs2l - headset 2 left ear
- hs2r - headset 2 right ear
- ls - panel loudspeaker
- auxls - auxiliary loudspeaker
- mtx1 - mono audio to the matrix via the analogue connection or one channel of stereo via an AES-3 card
- mtx2 - second channel of stereo to matrix via AES-3 card
- ext1 - external output 1 on auxiliary audio connector
- ext2 - external output 2 on auxiliary audio connector
- hotmic - output to hot microphone on auxiliary audio connector
- larec - listen again output
- voicerec - message recording output

The input audio stream crosspoint options are:

- mtx1 - input mono audio from the matrix via the analogue connection or one channel of stereo via an AES-3 card
- mtx2 - input a second channel of stereo from the matrix via the AES-3 card
- ext1 - input from external input 1 on the auxiliary audio connector

- ext2 - input from external input 2 on the auxiliary audio connector
- hs1 - input from headset 1 microphone
- hs2 - input from headset 2 microphone
- tone - test tone input
- laplay - listen again input
- voiceplay - message recording input

level

This commands allows the internal volume controls to be changed. Display 2 shows the controller name. Display 3 shows the controller value.

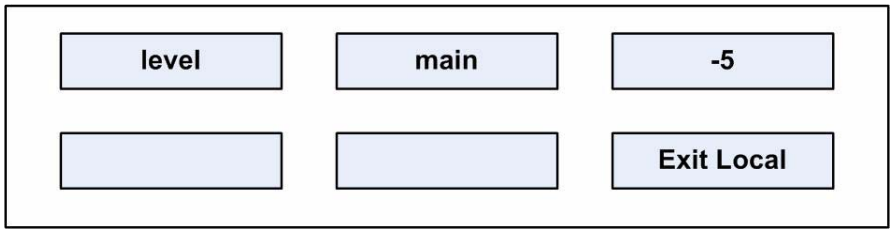

Figure 5-7: Level Setting Display

Five level options shown in window 2 to can be set using the volume up/down buttons (lever key and pushbutton panels) or the rotary encoder and talk button (rotary panels).

The level options are:

- main - main internal volume controller
- aux - auxiliary internal volume controller
- st1 - side tone 1 internal volume controller
- st2 - side tone 2 internal volume controller
- po - page override controller

control

This command allows the controller of a crosspoint to be changed. Display 2 shows the output streams and display 3 shows the input stream. Display 4 shows the controller name for that crosspoint.

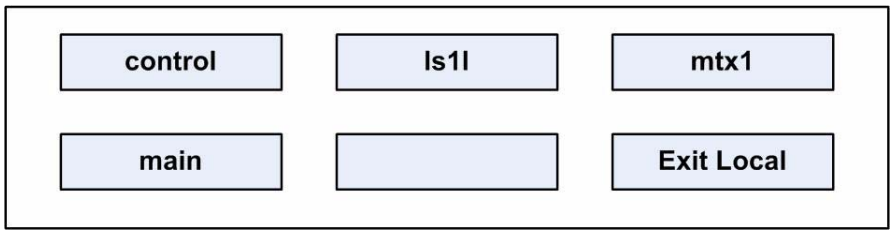

Figure 5-8: Control Setting Display

The input streams available are:

- hs1l - headset 1 left ear
- hs1r - headset 1 right ear
- hs2l - headset 2 left ear
- hs2r - headset 2 right ear
- ls - panel loudspeaker
- auxls - auxiliary loudspeaker
- mtx1 - mono audio to the matrix via the analogue connection or one channel of stereo via an AES-3 card
- mtx2 - second channel of stereo to matrix via AES-3 card
- ext1 - external output 1 on auxiliary audio connector
- ext2 - external output 2 on auxiliary audio connector
- hotmic - output to hot microphone on auxiliary audio connector
- larec - listen again output
- voicerec - panel message recording output

The input audio stream crosspoint options are:

- mtx1 - input mono audio from the matrix via the analogue connection or one channel of stereo via an AES-3 card
- mtx2 - input a second channel of stereo from the matrix via the AES-3 card
- ext1 - input from external input 1 on the auxiliary audio connector
- ext2 - input from external input 2 on the auxiliary audio connector
- hs1 - input from headset 1 microphone
- hs2 - input from headset 2 microphone
- tone - test tone input

- laplay - listen again input
- voiceplay - message recording input

The crosspoint controller options are:

- main - main internal volume controller assigned
- aux - auxiliary internal volume controller assigned
- none - no controller assigned

limit

This command allows various operating parameters of the digital limiters to be viewed and adjusted. Display 2 shows the input stream of the limiter being accessed. Display 3 shows the parameter for the limiter, and display 4 shows its current value.

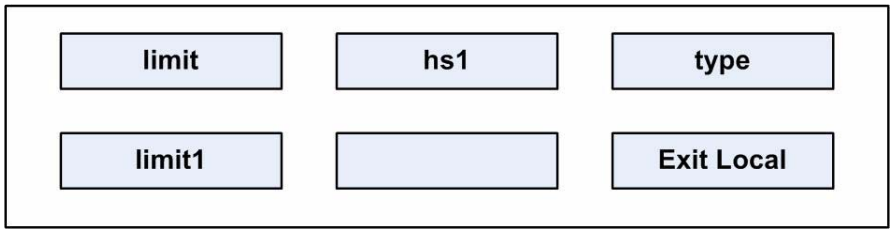

Figure 5-9: Limit Settings Display

The available input streams shown in window 2 are:

- hs1 - input from headset 1 microphone
- hs2 - input from headset 2 microphone

The available limiter are shown in window 3 and the limiter parameters and units are shown in window 4. The limiters are described below:

- type -select a preset limiter from one of limit1,limit2...limit6 show in window 4
- enable - yes or no in window 4 to enable/disable this limiter
- decay - decay time in ms shown in window 4
- attack - attack time in ms shown in window 4
- knee - knee in dB shown in window 4
- comp - compression shown in window 4
- gain - markup gain of limiter in dB shown in window 4
- thresh - the threshold below which the limiter has no effect shown in window 4

filter

This allows the current filter to be displayed and changed. Display 2 shows the input stream of the filter being accessed Display 3 shows the “action” and display 4 shows the action status.

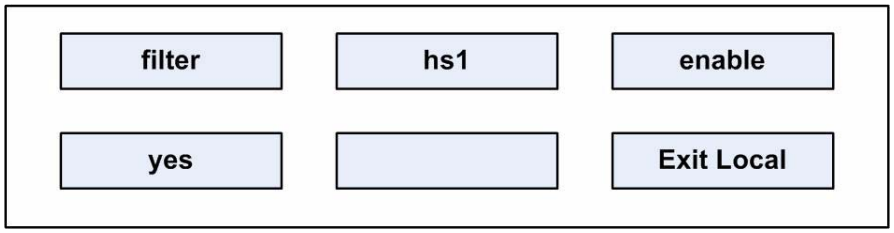

Figure 5-10: Filter Settings Display

The available input streams are:

- hs1 - input from headset 1 microphone
- hs2 - input from headset 2 microphone
- ext1 - input from external input 1 on the auxiliary audio connector
- ext2 - input from external input 2 on the auxiliary audio connector
- mtx1 - input mono audio from the matrix via the analogue connection or one channel of stereo via an AES-3 card
- mtx2 - input a second channel of stereo from the matrix via the AES-3 card

The available filter options in window3 are:

- enable - action to enable the filter

The available action options in window4 are:

- yes - enable filter
- no - disable filter

la

This allows various controls for the Listen Again system to be displayed and changed. Display 2 Shows the parameter name and display 3 shows the parameter value.

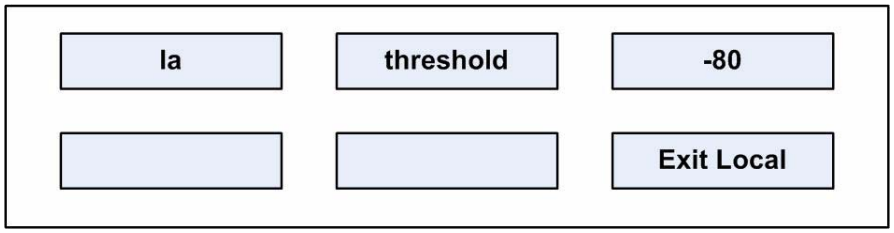

Figure 5-11: Listen Again Settings Display

The parameter names and values are shown below:

- threshold - the signal level in dB needed to trigger the Listen Again recording
- maxsilence - The maximum time in ms that silence will not cause fragmentation of a message
- stale - the time in seconds after which a message will be deleted
- startsil - the duration in ms of silence preceding message playback
- starttone - the duration in ms of the start tone during playback
- endsilence - the duration in ms of the silence after playing back a message
- endtone - the duration in ms of the end of messages tone during playback

mixer

Allows control of the number of mixer inputs and outputs. Display 2 displays “inputs” or “outputs”. Display 3 shows the number of inputs or outputs.

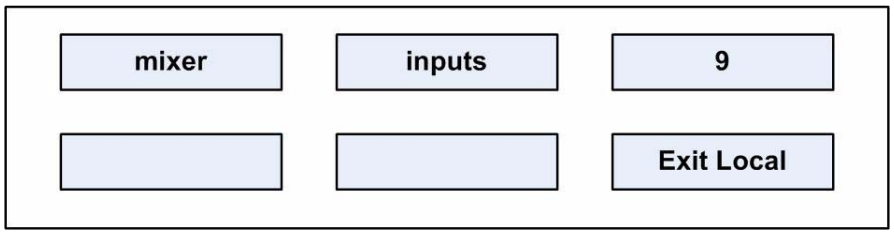

Figure 5-12: Mixer Settings Display

setup

This allows all the audio settings to be saved and restored from a file in nonvolatile memory on the panel. This is an action command. Display 2 : shows “save” or “restore” Display 3 : shows “DO IT”, and when the command is executed shows “DONE”.

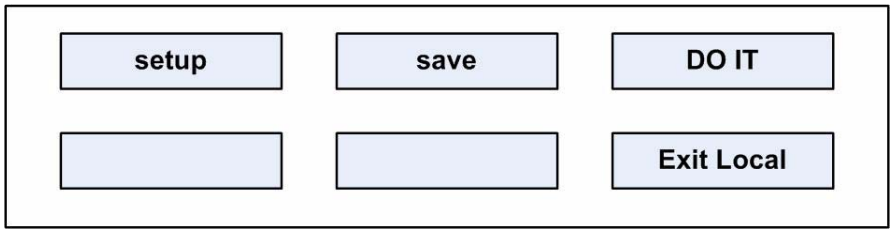

Figure 5-13: Setup Display Settings

The action options in window 2 are:

- save - save the settings to a file
- restore - restore settings to a file

The options in window 3 are:

- DO IT - execute the save or restore action
- DONE - save or restore action completed

voicerec

This command allows the voice message recording system to be controlled. They are all action commands. Display 2 shows the command. Display 3 shows the action.

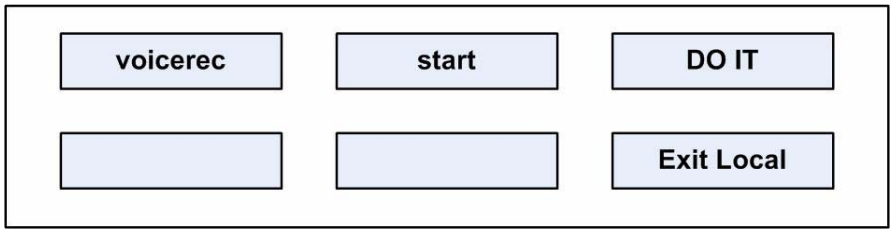

Figure 5-14: Voice Recorder Control Display

The commands and the actions are shown in the table below.

- start - start the voice recording system
- stop - stop the voice recording system
- erase - erase the recorded message

The options in window 3 are:

- DO IT - execute the save or restore action

voiceplay

This command controls the playback of the voice recording system. Display 2 shows the command and display 3 shows the available action.

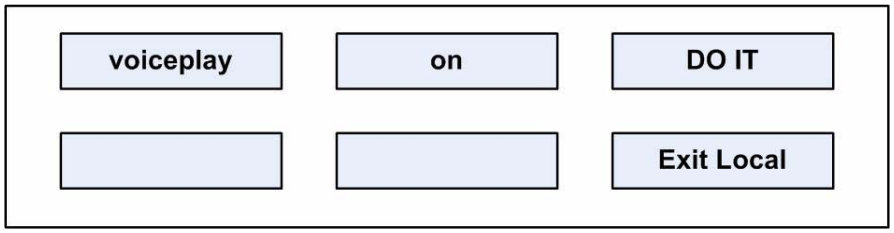

Figure 5-15: Voice Play Settings

The available commands in window 2 are:

- on - turn voice recording playback on
- off - turn voice recording playback off

Window 3 displays the available actions:

- DO IT - execute the action displayed in window 2

intrim

This allows the trim, or gain, to be adjusted on each of the input streams. Display 2 shows the stream name. Display 3 shows the trim in dB.

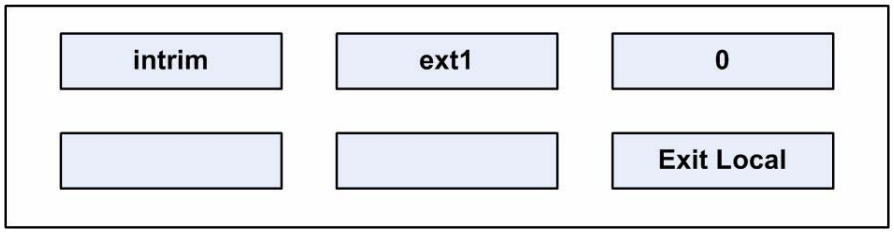

Figure 5-16: Input Trim Settings Display

The available input channels where the trim can be set are:

- ext1 - input from external input 1 on the auxiliary audio connector
- ext2 - input from external input 2 on the auxiliary audio connector
- hs1 - input from headset 1 microphone
- hs2 - input from headset 2 microphone on the auxiliary audio connector

outtrim

This allows the trim, or gain, to be adjusted on each of the input streams. Display 2 shows the stream name. Display 3 shows the trim in dB.

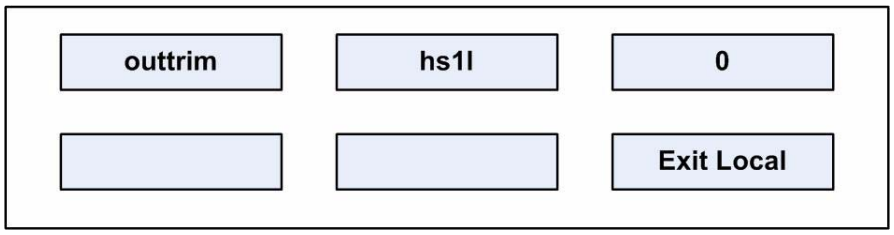

Figure 5-17: Output Trim Settings Display

The available output channels where the trim can be set are:

- hs1l - headset 1 left ear
- hs1r - headset 1 right ear
- hs2l - headset 2 left ear
- hs2r - headset 2 right ear
- ls - panel loudspeaker
- auxls - auxiliary loudspeaker
- mtx1 - mono audio to the matrix via the analogue connection or one channel of stereo via an AES-3 card
- mtx2 - second channel of stereo to matrix via AES-3 card
- ext1 - external output 1 on auxiliary audio connector
- ext2 - external output 2 on auxiliary audio connector
- hotmic - output to hot microphone on auxiliary audio connector

gpio

This menu shows the current setting of the discrete digital inputs in the panel General Purpose Input (GPIO) facility. Display 2 shows the input name Display 3 shows its value.

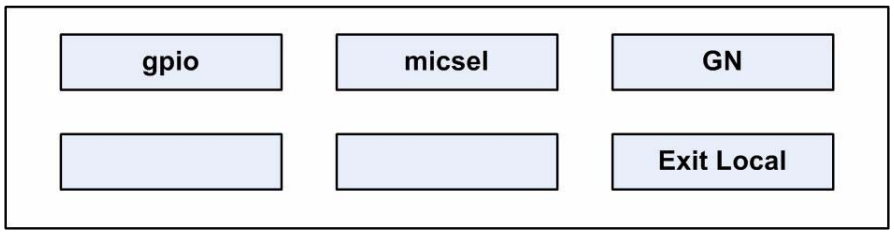

Figure 5-18: GPIO Display Settings

The input names and allowable values are show in the table below:

- micsel - GN/HS
- mic1gain - number 0..15
- mic1bal - bal/unbal
- mic1bias - on/off
- hs2gain - number 0..15
- hs2bal - bal/unbal
- hs2bias - on/off
- fled0 - on/off This controls the function led 0 on the front panel
- fled1 - on/off This controls the function led 1 on the front panel
- fled2 - on/off This controls the function led 2 on the front panel
- fled3 - on/off This controls the function led 3 on the front panel
- lscut - cut/uncut
- xlvl - on/off
- lev0 - number 0..15
- lev 1 - number 0..15
- relay0 - closed/open
- relay1 - closed/open

module

This allows commands to be sent to the display modules Display 2 shows the command. Display 3 shows the value

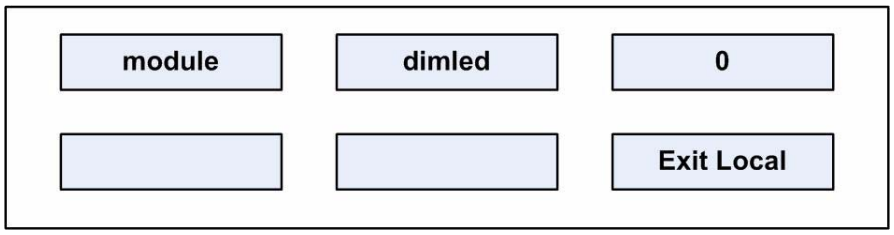

Figure 5-19: Display for Module Settings

The commands and allowed values are shown in the table below.

- dimled - number 0..50. This sets the brightness level for the LEDs.

6 SPECIFICATIONS

Note: 0 dBu is referenced to 0.775 V RMS

Front-Panel Controls and Connectors

Talk/Listen Switches:	11 or 23
Answer Back Switch	1
Volume Controls	2
Headset Connector	1 XLR-4M or XLR-5F or XLR-7M
Panel Mic Connector	1 3-pin

Main Panel Rear Connectors

GPIO	DB-25F
To Matrix	RJ-45 in XLR shell
Auxiliary Audio	DB-25M
Expansion	RJ-45
LAN	RJ-45
DC Power	4 Pin

AES-3 Option Rear Connectors

To Matrix (CAT5)	RJ-45
To Matrix (Coax)	BNC

T-Adapter Option Rear Connector

To Matrix (CAT5)	RJ-45

Expansion Panel Rear Connectors

Expansion In	RJ-45
Expansion Out	RJ-45
DC Power	4 Pin

Panel Microphone Input

Type:	Electret
Input Level	-70 to -40dBu
Impedance	1700 Ohms +/- 10% Electret mic 1000 Ohms +/- 10% Dynamic mic

Headset Microphone Input

Type	Electret or Dynamic
Input Level	-70 to -40dBu

Auxiliary Loudspeaker Output

Nominal Output	0dBu
Maximum Output	+18dBu
Output Impedance	100 Ohms

Audio Input/Output

Bandwidth	30 Hz - 22 kHz
Headroom	+18 dBu
Noise	<-70 dBu rms (20-22 kHz)
THD	<0.02% @ 1kHz
Input impedance	120 kOhms
Output impedance	50 Ohms

AC Mains Power Supply (External)

Voltage	100 - 240VAC
Frequency	50 - 60 Hz
Power	50W maximum

Temperature

Operating	between 0° and 50° C (32 to 125 F)
Storage	between 0° and 70° C (32 to 150 F)

Humidity

Operation and Storage	Between 20% and 90%, Non-Condensing

Dimensions (1RU Panels)

Height	1.82 in. (4.63 cm), (1 RU, EIA rack)
Width	19.0 in. (48.26 cm)
Depth	6.75 in. (17.15 cm)
Weight	3.5 lbs. (1.6 kg)

Dimensions (2RU Panels)

Height	3.5 in. (8.89 cm), (2 RU, EIA rack)
Width	19.0 in. (48.26 cm)
Depth	6.75 in. (17.15 cm)
Weight	7.5 lbs. (4.0 kg)

Dimensions (Desktop Panels)

Height	5.9 in. (15.00 cm)
Width	10.25 in. (26.00 cm)
Depth	6.8 in. (17.50 cm)
Weight	6.4 lbs. (2.9 kg)

Notice About Specifications

While Clear-Com makes every attempt to maintain the accuracy of the information contained in its product manuals, that information is subject to change without notice. Performance specifications included in this manual are design-center specifications and are included for customer guidance and to facilitate system installation. Actual operating performance may vary.

7 GLOSSARY

Analog Port Any of the Eclipse matrix's analog input/output RJ-45 connectors that are used to connect cable from the matrix to panels and interfaces. Each "port" connects to a separate audio channel in the matrix intercom system.

Alias label A label that is temporarily assigned and replaces a previously labeled port or conference.

Bus A bus is the channel or path between the components in the matrix along which electrical signals flow to carry information from one component to the next. In the Eclipse matrix the bus is located in the etched surface of the midplane.

Call Signal A call signal is an electronic signal sent from one panel or interface to another. A call signal can be audible and/or visual. Typically a call signal is sent to get the attention of a panel operator who may have turned down their intercom speaker's volume or removed their headset. It can also be sent to activate an electronic relay.

Canvas The assignment area of Production Maestro which can have any user labeled background.

Category-5 cable EIA/TIA 568 category specification relating to network cabling. Shielded category-5 cabling is required for Eclipse matrix wiring.

CellCom Digital wireless communications product. Sold under the CellCom name in USA and as FreeSpeak in Europe and Asia.

Central Matrix The term "central matrix" is used to differentiate the central hardware and software of the intercom system from the connected audio devices. The central matrix consists of:

1. The metal housing for the circuit cards and power supplies.
2. The circuit cards.
3. The power supplies.
4. The rear panel connectors which connect the matrix's hardware to panels and interfaces.

Conference An internal matrix virtual party line or busbar where many panels and interfaces can talk onto or listen from the party line without talking to themselves.

Destination A device such as an intercom panel, beltpack, or interface to which audio signals are sent. The device from which audio signals are sent is called a "source".

Duplex All real-time communication between individuals talking face to face is full duplex, meaning that they can both talk and listen simultaneously. The Eclipse matrices provide full-duplex audio.

ECS Eclipse Configuration Software. Software program that guides the operation of the central matrix circuit cards and connected panels.

Ethernet International standard which describes how information is transmitted across a network. Provides for the efficient organization of network components.

Fiber-optic Cable A fiber-optic cable consists of a glass core covered with a reflective material called “cladding” and several layers of buffer coating to protect the cable from the environment. A laser sends light pulses through the glass core to the other end of the cable.

FreeSpeak Digital wireless communications product. Sold under the FreeSpeak name in Europe and Asia and CellCom name in USA.

Full Duplex Refers to transmission of signals in two directions simultaneously.

IFB “Interruptible Foldback”. The term “foldback” refers to sending “program” audio, or some other audio mix, back to announcers while they are on the air. Doing so allows announcers to monitor themselves, other announcers, videotapes of commercials, or some mix of sources, while they on the air. This is typically found in television news and live broadcast events.

Announcers typically wear a small ear piece so they can hear the selected foldback audio mix. When a director wants to give directions to an announcer on air, or to announce changes in the program, the director must “interrupt” the foldback. To do this, the director uses a channel specifically set up to interrupt the foldback audio.

Interface Module A piece of electronic hardware designed to convert the 4-wire signals of a central matrix port to some other form of communication, such as 2-wire party line, telephone, etc. The interface module is connected to a central matrix port. The external non-4-wire device is then connected to the interface module.

ISO The ISO function, short for “panel ISOlation”, allows a panel operator to call a destination and interrupt all of that destination’s other audio paths and establish a private conversation. When the call is completed the destination’s audio pathways are restored to their original state before the interruption.

KeyGroup KeyGroups provide a way of assigning a label to multiple panels simultaneously even within a networked matrix system. Once the KeyGroups have been defined using ECS, all the keys within a KeyGroup can be changed with a single assignment in Production Maestro (Pro mode only).

Label A label is an alphanumeric name of up to five characters that identifies a source, destination, or control function accessed by an intercom panel. Labels appear in the displays of the intercom panel. Labels can identify panels, ports interfaced to other external equipment, fixed groups, party lines, and special control functions.

Multiplexing The process by which two or more signals are transmitted over a single communications channel. Examples include time division and wavelength division multiplexing.

Non-volatile Memory Data stored in the CPU's firmware (ROM) that is not lost when the power is turned off.

Palette The port, keyGroup and Monitor selection screen in Production Maestro.

Panel Also referred to as "station" in some cases (usually older manuals). Any intelligent intercom device connected to the rear-panel analog ports of the central matrix. This term does not refer to devices connected through interface modules.

Party Line A wired shared communication system based on a single screened pair of wires. See the Encore range. Matrix requires the CCI-22 to interface to it.

Port Any of the input/output connections (RJ-45 connectors) on the back panel of the central matrix. These connectors and the attached cables connect the central matrix to remote intercom devices. The term "port" emphasizes that the connection is a "portal" between the central matrix and the remote intercom devices.

Program Any separate audio source that is fed into the intercom channels. In television applications, for example, "program" audio is the audio that is broadcast on air.

Rack Unit or RU Standardized unit of mounting space on a rack panel. Each rack unit is 1.75 inches (44.45 mm) of vertical mounting space. Therefore 1 RU is 1.75 inches (44.45 mm) of vertical mounting space, 2 RU is 3.5 inches (88.9 mm), 3 RU is 5.25 inches (133.35 mm), and so on.

Remote Panel Any intelligent intercom device connected to the back-panel ports of the central matrix. This term does not refer to devices connected through interfaces.

Sidetone The sound of the panel operator's own voice heard in their own earphone as they speak.

Source In this manual, the term "source" refers to a device—such as an intercom panel, interface, or beltpack —that sends audio into the matrix. The device to which audio is sent is called a "destination".

VOX In the Eclipse system, when audio at a panel exceeds a threshold, a light switches on at the panel's port card to visually cue the operator. The threshold level is set in the Eclipse Configuration Software.

V-Series Communications panels used with Eclipse systems providing advanced facilities. Available in rack mount and desktop formats.

ECLIPSE MANUALS

The following manuals are available covering Eclipse products and accessories.

SOFTWARE MANUALS

Eclipse Configuration Software (ECS) Instruction Manual - 810299Z

Eclipse Logic Maestro Instruction Manual - 810414Z

Eclipse Production Maestro Quick Start Guide - 810409Z

Eclipse Production Maestro Installation and User Guide - 810410Z

Eclipse DECTSync Manual - 810412Z

Eclipse Host Computer Interface (HCI) Manual - 810413Z

HARDWARE MANUALS

Eclipse Omega Matrix Instruction Manual - 810290Z

Eclipse Median Matrix Instruction Manual - 810347Z

Eclipse PiCo Matrix Instruction Manual - 810348Z

Eclipse-32 Matrix Instruction Manual - 810315Z

Eclipse Matrix Installation Manual - 810298Z

Eclipse Upgrade Reference Manual - 810377Z

Eclipse V-Series Panels User Manual - 810365Z

Eclipse FOR-22 4-Wire Interface Instruction Manual - 810306Z

Eclipse CCI-22 Party Line Interface Instruction Manual - 810307Z

Eclipse TEL-14 Telephone Interface Instruction Manual - 810308Z

Eclipse GPI-6 General Purpose Inputs Instruction Manual - 810309Z

Eclipse RLY-6 General Purpose Outputs Instruction Manual - 810310Z

DIG-2 Digital Interface Instruction Manual - 810311Z

IMF-3, IMF-102, DIF-102 Interface Module Frame Instruction Manual - 810313Z

Eclipse AES-6 Digital Interface Instruction Manual - 810383Z

Eclipse BAL-8 Isolation Interface Instruction Manual - 810403Z

Eclipse V-Series AES-3 Option Card Installation Instructions - 810388Z

Eclipse V-Series XLR-7M Upgrade Instructions - 810405Z

Eclipse V-Series T-Adapter Installation Instructions - 810406Z

Eclipse FIM-202D Fiber Interface Instruction Manual - 810385Z

Eclipse FIM-102 Fiber Interface Instruction Manual - 810319Z

Eclipse FIM-108 Fiber Interface Instruction Manual - 810291Z

Eclipse 4000 Series II Panels Installation Guide - STA0530Z

Eclipse 4000 Series II Panels User Guide - STA0531Z

Eclipse ICS 1008E/1016E Panels Instruction Manual - 810404Z

Eclipse ICS 102/62 Panels Instruction Manual - 810302Z

Eclipse ICS 2003 Panel Instruction Manual 810303Z

Eclipse ICS 92/52 Panels Instruction Manual - 810301Z

Eclipse i-Station Instruction Manual - 810305Z

Eclipse ICS-21 Speaker Panel Instruction Manual - 810263Z

Eclipse ICS-22 Speaker Panel Instruction Manual - 810264Z

Eclipse ICS-24 Headset Panel Instruction Manual - 810265Z

Eclipse Digital Wireless Beltpack Instruction Manual - 810376Z

LIMITED WARRANTY

This document details the Clear-Com Standard Limited Warranty for all new products for sale within all regions with the exception of Military, Aerospace, and Government (MAG).

EXCEPT AS SET FORTH HEREIN ("LIMITED WARRANTY"), CLEAR-COM MAKES NO OTHER WARRANTIES, EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTIES OF MERCHANTABILITY, NONINFRINGEMENT OF THIRD PARTY RIGHTS, OR FITNESS FOR A PARTICULAR PURPOSE, ALL OF WHICH ARE EXPRESSLY DISCLAIMED.

1. **Standard Limited Warranty.** Clear-Com warrants its products, including supplied accessories, against defects in material or workmanship for the time periods as set forth below provided it was purchased from an authorized Clear-Com dealer or distributor.

   a) Pursuant to this Limited Warranty, Clear-Com will, at its option:

      i) repair the product using new or refurbished parts, or;

      ii) replace the product with a new or refurbished product.

   b) Remedies: In the event of a defect, the rights detailed in 1 (a) are your exclusive remedies. For purposes of this Limited Warranty, "refurbished" means a product or part that has been returned to its original specifications.

   c) Standard Warranty Period (by Product):

      i) All Clear-Com brand systems and products, including belt packs, have a Limited Warranty of two years, with the exception of;

         (1) Cables, accessories, components & consumable items have a Limited Warranty of 90 days.

         (2) Any Clear-Com product that has been classified as obsolete at the time of sale has a Limited Warranty of 90 days from sales and will be replaced with the same product or a sales credit will be issued, at the sole discretion of Clear-Com.

         (3) Headsets, handsets, microphones, and associated spare parts, as well as UHF wireless IFB products, have a Limited Warranty of one year.

         (4) UHF WBS Analog wireless intercom systems have a Limited Warranty of three years.

(5) All software products, including Concert (Client and Server), ECS, Production Maestro and Logic Maestro are warranted for one year and shall substantially conform to published specifications. The media on which the Software is furnished is warranted to be free of defects in material and workmanship (under normal use) for a period of one year.

(6) Any Clear-Com products that are listed within the last time buy period have the same Limited Warranty for their type 1.i 1 - 1.i.5 as above.

d) Any Clear-Com product that is repaired or supplied as a replacement under the terms of this Limited Warranty shall inherit the remaining warranty period from the original product.

e) Standard Warranty Period Start Date

i) Dealer / Distributor Sales: In view of Dealer or Distributor stocking practices, the Standard Warranty Period for products sold through Dealers or Distributors will commence from the Clear-Com invoice date and will include an automatic extension of three months. Any valid warranty claim within the Standard Warranty Period as determined by the Clear-Com invoice date will be covered without further supporting evidence. All warranty claims after this date must be supported by the Customer's proof of purchase that demonstrates the product is still within the Standard Warranty Period (as detailed in Section 1.c.i above, plus the automatic three month extension) from their purchase date.

ii) Direct Sales: The Standard Warranty Period will commence from the date the product was shipped from Clear-Com to the Customer. The Standard Warranty Period start date for contracts that include commissioning will be the date of the Site Acceptance Test (SAT) or one month from conclusion of the commissioning project, whichever is earlier.

f) Invalidation of Warranty

i) This Limited Warranty shall be invalidated if the product's outer case has been opened and internal modifications have been made or damage has occurred, or upon the occurrence of other damage or failure not attributable to normal wear and tear. Authorized modifications with Clear-Com's express written permission will not invalidate the warranty.

g) Software Updates

i) Software Updates are released periodically to correct discovered program bugs. During the Warranty Period, software updates are available to Customers free of charge.

h) Software Upgrades

i) Software Upgrades include new Features and/or Functional Enhancements and are not included as part of the Standard Warranty but may be purchased at the published rates.

ii) Note: In the absence of a Software Update containing a program correction and no available workaround to mitigate the problem, at the discretion of Service, Sales, Engineering, or Product Management, the Customer may be provided a Software Upgrade under warranty.

2. **Exclusions.** Services do not cover damage or failure caused by any occurrence beyond Clear-Com's reasonable control, including without limitation acts of God, fire, flooding, earthquake, lightning, failure of electric power or air conditioning, neglect, misuse, improper operation, war, government regulations, supply shortages, riots, sabotage, terrorism, unauthorized modifications or repair, strikes, labor disputes or any product failure that Clear-Com determines is not a result of failure in the Services provided by Clear-Com. Further Services excluded from this Agreement include: services required due to errors or omissions in Customer purchase orders; installation or maintenance of wiring, circuits, electrical conduits or devices external to the products; replacement or reconditioning of products which, in Clear-Com's opinion cannot be reliably maintained or properly serviced due to excessive wear or deterioration; Customer's failure to maintain the installation site in accordance with the environmental specifications of the products; or service on products removed from the location originally specified by Customer and/or reinstalled without the prior written approval of Clear-Com. Customer will pay Clear-Com's then current published charges to restore such Covered Products to a condition eligible for further service under this Agreement. Clear-Com shall be excused from and shall not be liable for any failure or delay in performance under this Agreement due to the foregoing or any causes beyond its reasonable control.

3. **Limitation of Liability. IN NO EVENT WILL CLEAR-COM BE LIABLE UNDER THIS AGREEMENT FOR ANY INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES (INCLUDING WITHOUT LIMITATION LOST PROFITS), REGARDLESS OF THE FORM OF ACTION, EVEN IF ADVISED IN ADVANCE OF THE POSSIBILITY OF SUCH DAMAGES.**

4. **Assignment.** Neither party may assign this Agreement or any portion thereof without the prior written consent of the other, except in the event of a merger, sale of all or substantially all of the assets or other corporate reorganization.

5. **Ownership of replaced parts or product.** All replaced parts or products become the property of Clear-Com.

6. **Entire Agreement.** This Agreement constitutes the entire agreement between the parties with respect to the subject matter hereof, and supersedes all prior or contemporaneous proposals, oral or written, and all other communications between them relating to the subject matter of this Agreement.

TECHNICAL SUPPORT & REPAIR POLICY

NOVEMBER 1, 2008

In order to ensure that your experience with Clear-Com and our World Class products is as beneficial, effective and efficient as possible, we would like to define the policies and share some "best practices" that can accelerate any problem solving processes which we may find necessary and to enhance your customer service experience. Our Technical Support, Return Material Authorization, and Repair Policies are set forth below. These Policies are subject to revision and constantly evolve in order to address our Customers' and the Market's needs. Accordingly these are provided by way of guidance and for information only and may be changed at anytime with or without Notice.

TECHNICAL SUPPORT POLICY

a) Telephone, online, and e-mail technical support will be provided by the Customer Service Center free of charge during the Warranty Period.

b) Technical support will be provided free of charge for all software products under the following conditions:

i) The application, operating, and embedded software is installed on a product covered by Clear-Com's Limited Warranty, and:

(1) The software is at the current release level; or,

(2) The software is one (1) version removed from current.

ii) Older versions of software will receive "best-effort" support, but will not be updated to correct reported bugs or add requested functionality.

c) For Technical Support:

i) North and South America, (inc. Canada, Mexico, and the Caribbean) & US Military:

Hours:	0800 - 1700 Pacific Time
Days:	Monday - Friday
Tel:	+1 510 337 6600
Email:	CustomerServicesUS@clearcom.com

ii) Europe, the Middle East and Africa:

Hours:	0800 - 2000 Central European Time

Days: Monday - Friday
Tel: +49 40 853 999 700
Email: TechnicalSupportEMEA@clearcom.com

iii) Asia-Pacific:
Hours: 0800 - 1700 Pacific Time
Days: Monday - Friday
Tel: +1 510 337 6600
Email: CustomerServicesAPAC@clearcom.com

d) Email Technical Support is available for all Clear-Com branded products free of charge for the life of the product, or two years after a product has been classified as obsolete, whichever comes first.

e) Support for Distributor and Dealer Sales

i) Distributors and Dealers may utilize the Customer Service Centers once a system has been installed and commissioned. Clear-Com Systems and Applications Engineers will provide support to the Distributor from the pre-sales stage through to satisfactory installation for new system purchases. Customers will be encouraged to contact their Dealer or Distributor with their installation and technical support enquires rather than using the Customer Service Centers directly.

f) Support for Direct Sales

i) Customers may utilize the Customer Service Centers once a system has been installed and commissioned by Clear-Com Systems and Applications Engineers, or in the case of project installations, once the Project Team has completed the hand-over to the Support Centers.

RETURN MATERIAL AUTHORIZATION POLICY

a) Authorizations: All products returned to Clear-Com or a Clear-Com Authorized Service Partner must be identified by a Return Material Authorization (RMA) number.

b) The Customer will be provided with an RMA number upon contacting Clear-Com Sales Support as instructed below.

c) The RMA number must be obtained from Clear-Com via phone or email prior to returning product to the Service Center. Product received by the Service Center without a proper RMA number is subject to return to the Customer at the Customer's expense.

d) Damaged equipment will be repaired at the Customer's expense.

e) Returns are subject to a 15% restocking fee.

f) Advance Warranty Replacements (AWRs);

i) *During the first 30 days of the Standard Warranty Period:* Once the equipment fault has been verified by Clear-Com or its authorized representative, Clear-Com will ship a new replacement product. The Customer will be provided with an RMA number and be required to return the faulty equipment within 14 days of receipt of the replacement or will be invoiced for the list price of a new product.

ii) *During days 31-90 of the Standard Warranty Period:* Once the equipment fault has been verified by Clear-Com or its authorized representative, Clear-Com will ship a like-new, fully refurbished replacement product. The Customer will be provided with an RMA number and be required to return the faulty equipment within 14 days of receipt of the replacement or will be invoiced for the list price of a new product.

iii) To obtain an RMA number or request an AWR:

(1) North and South America, Asia-Pacific, and US Military:

Hours:	0800 - 1700 Pacific Time
Days:	Monday - Friday
Tel:	+1 510 337 6600
Email:	SalesSupportUS@clearcom.com

(2) Europe, the Middle East and Africa:

Hours:	0800 - 1700 GMT + 1
Days:	Monday - Friday
Tel:	+ 44 1223 815000
Email:	SalesSupportEMEA@clearcom.com

iv) Note: AWRs are not available for UHF WBS Analog wireless intercom systems. UHF WBS Analog wireless intercom systems out-of-box failures must be returned to Alameda for repair.

v) Note: Out-of-box failures returned after 90 days will be repaired and not replaced unless approved by Clear-Com Management.

vi) Note: AWRs are not available after 90 days of receipt of product unless an AWR Warranty Extension is purchased at the time of product purchase.

vii) Note: Shipping charges, including duties, taxes, and insurance (optional), to Clear-Com's factory is the responsibility of the Customer. Shipping AWRs from Clear-Com is at Clear-Com's expense (normal ground or international economy delivery). Requests for expedited shipping (E.g. "Next-Day Air") and insurance are the responsibility of the Customer.

REPAIR POLICY

a) Repair Authorizations: All products sent to Clear-Com or a Clear-Com Authorized Service Partner for repair must be identified by a Repair Authorization (RA) number (see above).

b) The Customer will be provided with an RA number upon contacting Clear-Com Customer Services as instructed below.

c) The RA number must be obtained from Clear-Com via phone or email prior to returning product to the Service Center. Product received by the Service Center without a proper RA number is subject to return to the Customer at the Customer's expense.

d) Return for Repair

i) Customers are required to ship equipment at their own cost (including transportation, packing, transit, insurance, taxes and duties) to Clear-Com's designated location for repair.

(1) Clear-Com will pay for the equipment to be returned to the Customer when it is repaired under warranty.

(2) Shipping from Clear-Com is normal ground delivery or international economy. Requests for expedited shipping (E.g. "Next-Day Air") and insurance are the responsibility of the Customer.

ii) **Clear-Com does not provide temporary replacement equipment ("loaner") during the period the product is at the factory for repair.** Customers should consider a potential prolonged outage during the repair cycle, and if required for continuous operations purchase minimum spare equipment required or purchase an AWR Warranty Extension.

iii) No individual parts or subassemblies will be provided under warranty, and warranty repairs will be completed only by Clear-Com or its Authorized Service Partners.

iv) Customers requesting a non-warranty repair will be provided an estimate of the total repair cost prior to the return of the equipment. In the event that Clear-Com is unable to estimate

the cost of repair, the Customer may elect to return the product to the factory for an estimate. The Customer is responsible for shipping costs both to and from the factory in the event they choose not to accept the estimate.

v) The Customer must provide either a purchase order for the repair work, or will be required to make an advance payment (as a debit against the Dealer's line of credit, or credit card) prior to the repaired product being returned to the Customer.

vi) For requesting a Repair Authorization number:

(1) North and South America, Asia-Pacific, and US Military:

Hours:	0800 - 1700 Pacific Time
Days:	Monday - Friday
Tel:	+1 510 337 6600
Email:	CustomerServicesUS@clearcom.com

(2) Europe, the Middle East and Africa:

Hours:	0800 - 2000 Central European Time
Days:	Monday - Friday
Tel:	+49 40 853 999 700
Email:	TechnicalSupportEMEA@clearcom.com

vii) Note: Clear-Com's Limited Warranty does not cover normal wear and tear. The Customer will be charged the full cost of the repair if their equipment has been tampered with by non-approved personnel, or has been subject to damage through electrical failure, liquid damage or mishandling. The Customer Service Center will provide the Customer with a cost estimate for any such repairs prior to undertaking the work.